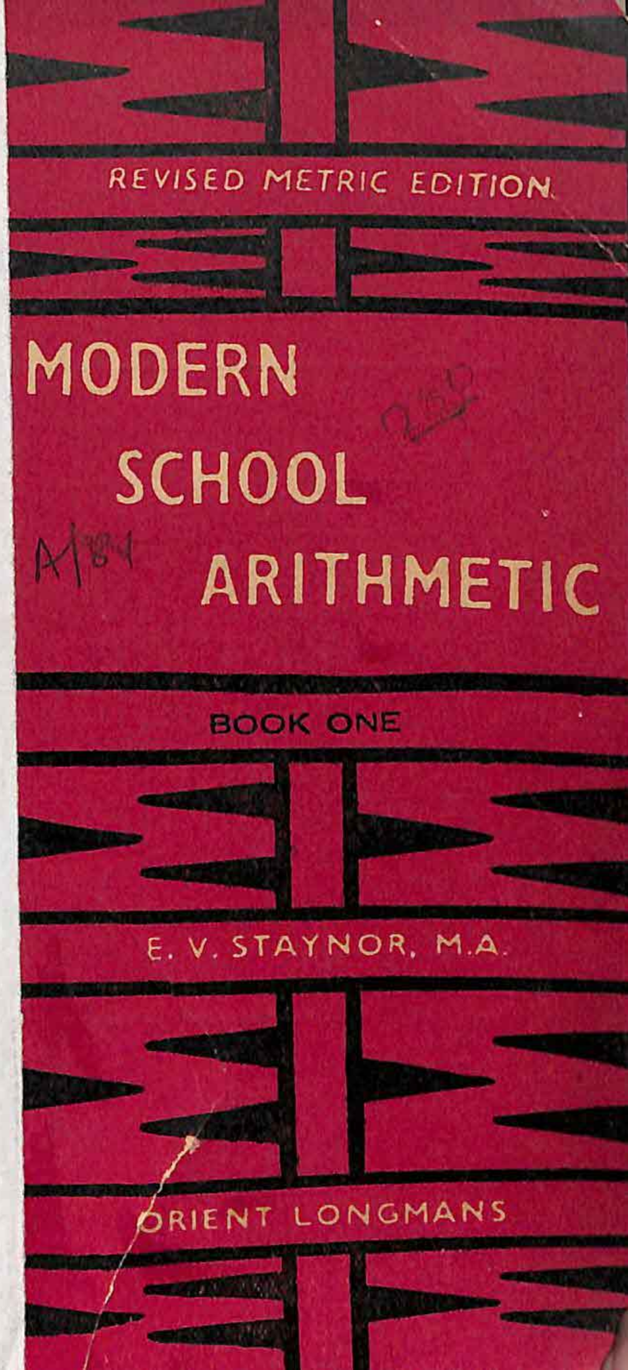

REVISED METRIC EDITION

MODERN
SCHOOL
ARITHMETIC

2.50

A/784

BOOK ONE

E. V. STAYNOR, M.A.

ORIENT LONGMANS

MULTIPLICATION TABLE

	1	2	[illegible]	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	[illegible]	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

A 81

MODERN SCHOOL ARITHMETIC

REVISED DECIMAL MONEY AND METRIC WEIGHTS AND MEASURE

BOOK ONE

STATE INSTITUTE ... BAN...

E. V. STAYNOR, M.A. (LONDON)
West Bengal Senior Educational Service (Retired)
formerly Principal, St. Mary's Training College, Poona

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Sherwood College
Naini Tal

S.C.E.R.T., West Bengal
Library
25/3, B.C. Road

ORIENT LONGMANS
BOMBAY CALCUTTA MADRAS NEW DELHI

Write your answer only

(6) I have to choose **10** balloons, red, white and green:
I can choose **2** red+**7** white+ green.
or **3** red+**4** white+ green.
or **4** red+ white+**2** green.
or **3** red+ white+**1** green.
or **3** red+**5** white+ green.
or **7** red+ white+**1** green.
or red+**2** white+**2** green.

(7) I have **10** marbles.
If I give **2** to Tom and **3** to John, I shall have left.
I give **5** to Tom and **5** to John, I shall have left.
I give **3** to Tom and **4** to John, I shall have left.
I give **0** to Tom and **6** to John, I shall have left.

(8) **2+3−4** means: to **2** add **3**, then subtract **4**. Answer **1**.

5−3+2 means: from **5** subtract **3**, then add **2**. Answer **4**.

7+2−5..........
4+2+3..........
9−2−3..........

RACES

Race through these sums. Climb up one column at a time.

Write your answers only

(i)
(*d*) **0+6−4=**
(*c*) **6−3+1=**
(*b*) **7+2−4=**
(*a*) **5+4−2=**

(ii)
(*d*) **7+2+1=**
(*c*) **8+2−1=**
(*b*) **7−6+2=**
(*a*) **10−6−2=**

(iii)
(*d*) **9−3+3=**
(*c*) **8+2+4=**
(*b*) **7+3+5=**
(*a*) **7+3−5=**

(1) John had **8** green balloons and **6** red balloons.
He exchanged **2** green ones for red ones.
How many of each has he now ?

(2) I had **11** green and **7** red balloons.
I exchanged **4** green ones for red ones.
How many of each have I now ?

(3) I had **12** green and **8** red balloons.
I exchanged **4** red ones for green ones.
How many of each have I now ?

(4) I exchanged **4** red balloons for green ones.
I now have **7** red and **6** green balloons.
How many of each had I before ?

---

(5) John has **11** marbles and Tom has **8** marbles. If John gives Tom **4** marbles, who will have more ? How many more ?

(6) John has **9** marbles and Tom **12**. Who has more ? How many more ? If Tom gives John **3** marbles, who will have more ? How many more ?

(7) John has **7** marbles and Tom **11**. How many must Tom give John so that both boys will have the same number ?

(8) John has **3** marbles and Tom **9**. How many must Tom give John so that both boys will have the same number ?

---

(9) John has **7** marbles and Tom **5**. How many more has John than Tom ? If they win **3** marbles each, how many more will John have than Tom ?

(10) John and Tom have **15** marbles between them. If they play as partners, and John loses **6** and Tom wins **7**, how many marbles will they have between them ?

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Revise *1960 (twice)*
1962
963, 1964

Price Rs. 1·15

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In this edition the metric system of weights and measures has been introduced in place of the British and Indian weights and measures.

The number of examples has also been increased in some of the chapters.

Simple addition and subtraction in metres and centimetres, litres and centilitres, have been introduced. Later in the book more difficult addition and subtraction sums have been added. The chapter on "Getting back Change" has been rewritten involving the decimal coinage.

Building of tables for 13, 14 & 15 has been added.

A series of revision tests have been added at the end of the book which should prove useful.

R. BENTINCK

PRINTED IN INDIA
BY S. C. GHOSE AT CALCUTTA PRESS PRIVATE LTD
1 WELLINGTON SQUARE, CALCUTTA 13

1.2.2008
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~~A6+~~

CHOOSING BALLOONS

***Red and Green Balloons*

I have to choose 6 balloons: Write

I can choose **5** green and **1** red. **5+1=6.**
or **3** green and **3** red. **3+3=6.**
or **2** green and **4** red. **2+4=6.**
or **4** green and **2** red. **4+2=6.**
or **0** green and **6** red. **0+6=6.**
or **6** green and **0** red. **6+0=6.**
or **1** green and **5** red. **1+5=6.**

DRILL

(1) I have to choose **7** balloons .... continue.
(2) I have to choose **8** balloons .... continue.
(3) I have to choose **9** balloons .... continue.
(4) Fill in the blanks:

2+ =5; 3+ =5; +5=9; 7+ =9; 8+ =8;
+3=7; 3+ =7; +6=6; +5=8; 1+ =6.

(5) I have **10** balloons: **4** red+ green.
I have **9** balloons: **9** red+ green.
I have **7** balloons: **2** red+ green.
I have **8** balloons: red+ **5** green.
I have **6** balloons: **0** red+ green.
I have **8** balloons: **6** red+ green.
I have **10** balloons,

as many red as green: red+ green.

Tom had **43** sticks. He was then given **32** more. How many had he now ?

In the top row of your Adding Box put **4** tens-bundles in the tens compartment and **3** sticks in the units compartment. In the second row put **3** tens-bundles in the tens compartment and **2** sticks in the units compartment.

The top row now shows how many sticks Tom first had.

The lower row shows how many more he was given. To add them we remove the panel between the two rows.

Now see how many there are altogether in the units compartment, **5**.

How many in the tens compartment ? **7**

So the answer must be **75.**

We can write what we have done in this way :—

First

T	U
4	**3**
3	**2**

Then (remove the panel)

$$\begin{array}{c|c} \mathrm{T} & \mathrm{U} \\ \mathbf{4} & \mathbf{3} \\ \hline \mathbf{3} & \mathbf{2} \\ \mathbf{7} & \mathbf{5}\ \text{Ans.} \end{array}$$

Use your Adding Box to add the following numbers and write down what you do each time in the way you have just been shown.

(1) **27** and **32**
(2) **35** and **43**
(3) **63** and **12**
(4) **52** and **25**
(5) **61** and **16**
(6) **39** and **20**

Now learn to add without the guiding lines:

$$\begin{array}{r} \mathbf{43} \\ +\mathbf{32} \\ \hline \mathbf{75}\ \text{Ans.} \\ \hline \end{array}$$

(7) $\begin{array}{r} \mathbf{35} \\ +\mathbf{23} \\ \hline \\ \hline \end{array}$ (8) $\begin{array}{r} \mathbf{43} \\ +\mathbf{26} \\ \hline \\ \hline \end{array}$ (9) $\begin{array}{r} \mathbf{23} \\ +\mathbf{64} \\ \hline \\ \hline \end{array}$ (10) $\begin{array}{r} \mathbf{55} \\ +\mathbf{22} \\ \hline \\ \hline \end{array}$

Add

+(plus)

(No carrying)

L. *Answers only*	*Copy*	**R.** *Answers only*	*Copy*
(1) 43 +32	(7) 35 +22	(1) 52 +43	(7) 55 +23
(2) 60 +34	(8) 3 +44	(2) 70 +24	(8) 5 +34
(3) 52 +27	(9) 37 +52	(3) 62 +37	(9) 57 +32
(4) 33 +40	(10) 60 +43	(4) 53 +30	(10) 70 +23
(5) 12 +25	(11) 63 +36	(5) 22 +15	(11) 36 +63
(6) 33 + 4	(12) 37 +20	(6) 63 + 5	(12) 57 +30

Write your work

(13) Add **35** and **53.**
(14) Add **32** and **60.**
(15) Add **4** and **53.**
(16) **32+43=**
(17) **25+32=**

(13) Add **73** and **24.**
(14) Add **52** and **30.**
(15) Add **73** and **4.**
(16) **33+44=**
(17) **63+36=**

Write answers only

(1)

(i)	(ii)
(*h*) **23+35=**	(*h*) **33+64=**
(*g*) **32+25=**	(*g*) **35+23=**
(*f*) **30+25=**	(*f*) **60+35=**
(*e*) **36+40=**	(*e*) **26+30=**
(*d*) **27+32=**	(*d*) **23+72=**
(*c*) **27+ 2=**	(*c*) **37+ 2=**
(*b*) **5+34=**	(*b*) **4+35=**
(*a*) **60+37=**	(*a*) **62+37=**

---

(2) Tom started a game with **32** marbles. He won **54** marbles. How many had he at the end of the game ?

(3) Jane has two tins of chocolates, one with **37** chocolates and the other with **21** chocolates. How many chocolates has Jane ?

(4) A man sold **24** mangoes from his basket and then had **33** mangoes left. How many mangoes had he at first ?

(5) There are **35** children in a class and **24** children in another class. If all of them go for a picnic, how many children will there be at the picnic ?

(6) What number is bigger than **51** by **23** ?

(7) What number is bigger than **21** by **53** ? Write your answer in words.

(8) Add sixty-six to thirty-two and write your answer in words.

(9) Add fifty-seven to twenty-two and write your answer in words.

Drill

Addition Tables

	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18

Blackboard work Doing

Example

7+

(3
(5
(9
(2
(1
(4
(etc.

Sliding Rulers. Teacher will give you two cardboard rulers. Write the numbers 1 to 9 in any order on one of the rulers and in any other order on the other ruler.

3	6	8	2	7	1	9	4	5

4	3	7	6	1	5	8	2	9

Keep one ruler fixed and slide the other along it. Mark off any figure on the fixed ruler and as the figures of the lower ruler pass under it add the figures and call out the answer.

(*Carrying*)

Use your Adding Box to add **38** and **45.**

This time we have **13** sticks in the units compartment. We bundle **10** of them into **1** tens-bundle and put it into the tens-compartment. We then have **3** sticks in the units-compartment, and altogether **8** tens-bundles in the tens-compartment.

We can show what we have done in this way:

T	U
3	**8**
4	**5**

8 **3** Ans

8 and **5** give **13.**
Put down **3** and carry **1.**
1 and **4** give **5, 5,** and **3** give **8.**
Put down **8.**

Add. Use your Adding Box and write what you have done as shown above.

(1) **38** and **47**
(2) **43** and **49**
(3) **16** and **77**
(4) **36** and **47**
(5) **35** and **44**
(6) **44** and **38**

Now we shall not draw the compartment lines. Let us imagine they are there.

Add **45** and **37.**

$$\begin{array}{r}45\\+37\\\hline 82\end{array}$$ Answer.

L.

Write answers only

(1) $\begin{array}{r}35\\+56\\\hline\end{array}$

(2) $\begin{array}{r}32\\+59\\\hline\end{array}$

(3) $\begin{array}{r}37\\+44\\\hline\end{array}$

(4) $\begin{array}{r}46\\+25\\\hline\end{array}$

Copy

(5) $\begin{array}{r}56\\+47\\\hline\end{array}$

(6) $\begin{array}{r}18\\+94\\\hline\end{array}$

(7) $\begin{array}{r}4\\+39\\\hline\end{array}$

(8) $\begin{array}{r}62\\+59\\\hline\end{array}$

R.

Write answers only

(1) $\begin{array}{r}63\\+19\\\hline\end{array}$

(2) $\begin{array}{r}75\\+17\\\hline\end{array}$

(3) $\begin{array}{r}32\\+29\\\hline\end{array}$

(4) $\begin{array}{r}58\\+27\\\hline\end{array}$

Copy

(5) $\begin{array}{r}79\\+26\\\hline\end{array}$

(6) $\begin{array}{r}32\\+98\\\hline\end{array}$

(7) $\begin{array}{r}46\\+88\\\hline\end{array}$

(8) $\begin{array}{r}5\\+28\\\hline\end{array}$

(*Carrying*)

RACES

(i)

(*a*) 29+ 9=

(*b*) 28+ 8=

(*c*) 64+17=

(*d*) 43+29=

(*e*) 37+28=

(*f*) 58+23=

(*g*) 35+47=

(ii)

(*a*) 53
+47

(*b*) 81
+19

(*c*) 37
+46

(iii)

Add:—

(*a*) 7 and 29.

(*b*) 6 and 26.

(*c*) 37 and 7.

(*d*) 65 and 28.

(*e*) 63 and 18.

(*f*) 54 and 97.

(*g*) 97 and 54.

Add 47 and 23

We use our Adding Box. We see that we have exactly **10** sticks in the units-compartment. We bundle them together to make **1** tens-bundle and put it into the tens-compartment. Notice then there will be no sticks in the units-compartment. We write our work in this way:

T	U	
4	**7**	
2	**3**	
7	**0**	Answer.

We must write **0** in the units-compartment.
Put down **0** and carry **1**.

L.

Write answers only

(1) $\begin{array}{r} 32 \\ +48 \\ \hline \\ \hline \end{array}$

(2) $\begin{array}{r} 63 \\ +27 \\ \hline \\ \hline \end{array}$

(3) $\begin{array}{r} 25 \\ +35 \\ \hline \\ \hline \end{array}$

(4) $\begin{array}{r} 24 \\ +46 \\ \hline \\ \hline \end{array}$

(5) $\begin{array}{r} 53 \\ +24 \\ \hline \\ \hline \end{array}$

(6) $\begin{array}{r} 53 \\ +27 \\ \hline \\ \hline \end{array}$

(7) $\begin{array}{r} 35 \\ +73 \\ \hline \\ \hline \end{array}$

Copy

(8) $\begin{array}{r} 27 \\ +43 \\ \hline \\ \hline \end{array}$

(9) $\begin{array}{r} 22 \\ +84 \\ \hline \\ \hline \end{array}$

(10) $\begin{array}{r} 63 \\ +37 \\ \hline \\ \hline \end{array}$

(11) $\begin{array}{r} 45 \\ +55 \\ \hline \\ \hline \end{array}$

(12) $\begin{array}{r} 62 \\ +28 \\ \hline \\ \hline \end{array}$

(13) $\begin{array}{r} 62 \\ +38 \\ \hline \\ \hline \end{array}$

(14) $\begin{array}{r} 31 \\ +29 \\ \hline \\ \hline \end{array}$

(15) Add **34** and **56**
(17) Add **62** and **38**

R.

Write answers only

(1) $\begin{array}{r} 53 \\ +37 \\ \hline \\ \hline \end{array}$

(2) $\begin{array}{r} 52 \\ +38 \\ \hline \\ \hline \end{array}$

(3) $\begin{array}{r} 35 \\ +45 \\ \hline \\ \hline \end{array}$

(4) $\begin{array}{r} 36 \\ +24 \\ \hline \\ \hline \end{array}$

(5) $\begin{array}{r} 63 \\ +14 \\ \hline \\ \hline \end{array}$

(6) $\begin{array}{r} 63 \\ +17 \\ \hline \\ \hline \end{array}$

(7) $\begin{array}{r} 45 \\ +63 \\ \hline \\ \hline \end{array}$

Copy

(8) $\begin{array}{r} 37 \\ +33 \\ \hline \\ \hline \end{array}$

(9) $\begin{array}{r} 32 \\ +74 \\ \hline \\ \hline \end{array}$

(10) $\begin{array}{r} 53 \\ +47 \\ \hline \\ \hline \end{array}$

(11) $\begin{array}{r} 25 \\ +75 \\ \hline \\ \hline \end{array}$

(12) $\begin{array}{r} 52 \\ +38 \\ \hline \\ \hline \end{array}$

(13) $\begin{array}{r} 52 \\ +48 \\ \hline \\ \hline \end{array}$

(14) $\begin{array}{r} 21 \\ +39 \\ \hline \\ \hline \end{array}$

(16) Add **52** and **38.**
(18) Add **6** and **54.**

(1) Write in words the answer of the sum

$$\begin{array}{r}\mathbf{38}\\+\mathbf{26}\\\hline\\\hline\end{array}$$

(2) Write in words the answer of the sum

$$\begin{array}{r}\mathbf{63}\\+\mathbf{38}\\\hline\\\hline\end{array}$$

(3) Harry and John were partners in a game. Harry won **69** marbles and John won **18** marbles. What did they win altogether ?

(4) **56** eggs are taken out of a basket and then **38** eggs remain. How many eggs were there at first ?

(5) I walk **54** steps, then **38** steps more. How many steps have I walked ?

(6) A book has **36** blank pages and **17** pages which have been written on. How many pages are there in the book ?

---

(7) Write in words, the answer of **65+28.**

(8) A man sold **53** apples, then **49** more. He then had **10** left. How many apples had he at first ?

(9) A train with **44** trucks is joined to a train with **27** trucks. How many trucks has the new train ?

(10) A girl got **5** more than the right answer for a sum. Her answer was **9.** What was the right answer ?

(11) A man bought **56** pencils, then **37** more. How many pencils will he have if he gives away **10** ?

(12) Add together the odd numbers from **5** to **11.**

John has **57** sticks. How many will he have if he gives away **25** ?

Use your Addition Box. Put **7** sticks in the units compartment and **5** tens-bundles in the tens compartment.

Now take away **5** sticks from the units compartment and **2** bundles from the tens compartment. There are **2** sticks left in the units compartment and **3** bundles in the tens compartment.

We can write what we have done like this:—

$$\begin{array}{r} \mathbf{5\ 7} \\ \mathbf{-2\ 5} \\ \hline \mathbf{3\ 2} \\ \hline \end{array}$$

EXERCISES

Take away —(minus)

Use your Addition Box to work the following sums and write each sum in the way you have just been shown.

(1) From **75** take away **32.**
(2) From **89** take away **63.**
(3) Take away **35** from **77.**
(4) Take away **24** from **48.**
(5) From **98** take away **35.**

(6) **68—32**
(7) **49—17**
(8) **73—32**
(9) **95—41**
(10) **29—17**

EXERCISES

L. *Write answers only*

(1) $\begin{array}{r}53\\-32\\\hline\end{array}$

(2) $\begin{array}{r}27\\-16\\\hline\end{array}$

(3) $\begin{array}{r}65\\-42\\\hline\end{array}$

(4) $\begin{array}{r}59\\-49\\\hline\end{array}$

(5) $\begin{array}{r}88\\-44\\\hline\end{array}$

(6) $\begin{array}{r}88\\-88\\\hline\end{array}$

(7) $\begin{array}{r}63\\-2\\\hline\end{array}$

(8) $\begin{array}{r}58\\-6\\\hline\end{array}$

Write answers only **R.**

(1) $\begin{array}{r}63\\-42\\\hline\end{array}$

(2) $\begin{array}{r}75\\-35\\\hline\end{array}$

(3) $\begin{array}{r}88\\-33\\\hline\end{array}$

(4) $\begin{array}{r}59\\-34\\\hline\end{array}$

(5) $\begin{array}{r}76\\-76\\\hline\end{array}$

(6) $\begin{array}{r}58\\-32\\\hline\end{array}$

(7) $\begin{array}{r}75\\-4\\\hline\end{array}$

(8) $\begin{array}{r}69\\-2\\\hline\end{array}$

Write all your work

(9) From 67 take 42.
(10) From 76 subtract 54.
(11) Take 62 from 88.
(12) Subtract 52 from 97.
(13) From 88 subtract 65.
(14) Take 27 from 99.

(9) From 78 take 53.
(10) From 87 subtract 55.
(11) Take 53 from 75.
(12) Subtract 62 from 96.
(13) From 98 subtract 56.
(14) Take 36 from 89.

Write Answers only

(15) 78−65=
(16) 66−44=
(17) 78− 8=
(18) 78− 6=

(19) 88−53=
(20) 65−31=
(21) 78−26=
(22) 85−35=

(23) 68−35=
(24) 76−23=
(25) 88− 8=
(26) 87− 2=

(1) John had a collection of **78** butterflies. He gave away **33.** How many had he left ?

(2) My book has **87** pages. **I** have read **42** pages. How many pages have I still to read ?

(3) My book has **98** pages. If I read **25** pages the first day, and **32** pages the next day, how many pages will I have left to read ?

(4) In a class of **48** children, **25** are boys. How many girls are there in the class ?

(5) In a class there are **23** boys and **26** girls. How many children are there in the class ?

(6) If I add **34** stamps to my collection, I shall have **86** stamps altogether. How many have I now ?

(7) If I have **42** stamps in my collection and **I** add **53** stamps to it, how many stamps will **I** have in all ?

(8) I have **61** stamps in my collection. How many more stamps must I collect so as to have **87** stamps in all ?

(9) I have sixty-six beads on a string. How many beads must I take off to leave fifty-two ?

(10) There are **68** cups but only **42** saucers. How many cups will be without saucers ?

(11) Of **76** cups, **33** are without saucers. How many saucers are there ?

(12) If I take a certain number from sixty-seven I obtain forty-two for my answer. What is that number ?

*Teacher will put these sums on the blackboard. As soon as she points to a sum, you must write down the answer in your exercise book as quickly as you can.

16	17	15	13	13
-8	-8	-7	-8	-5
12	12	14	14	14
-7	-5	-8	-9	-6
18	17	17	16	15
-9	-8	-9	-7	-9
15	15	14	13	12
-8	-6	-7	-6	-8

RACES

Write your answers only

(i) ↑	(ii)			↑ (iii)
(*h*) $7+9=$	(*h*) From	17 take	8	(*h*) $30+9=$
(*g*) $9+7=$	(*g*) Add	7 and	8	(*g*) $20+8=$
(*f*) $16-8=$	(*f*) Take	7 from	15	(*f*) $30-8=$
(*e*) $15-7=$	(*e*) Take	8 from	15	(*e*) $30-9=$
(*d*) $11+6=$	(*d*) From	13 take	9	(*d*) $20+9=$
(*c*) $11-6=$	(*c*) Add	5 and	9	(*c*) $30-5=$
(*b*) $14-8=$	(*b*) Add	8 to	8	(*b*) $30+5=$
(*a*) $4+8=$	(*a*) Subtract	7 from	12	(*a*) $35+6=$

(*Breaking up a tens-bundle*)

Let us use the Addition Box to do this sum

$$\begin{array}{r} \mathbf{8\ 2} \\ \mathbf{-2\ 5} \\ \hline \\ \hline \end{array}$$

There are only **2** sticks in the units compartment. How are we to take away **5** sticks ?

We can take one of the tens-bundles from the tens compartment. Untie the bundle and put the **10** sticks into the units compartment. We now have **12** sticks there and so we can take away **5** sticks. We take away **5** sticks and there will be **7** left. Then from the **7** tens-bundles we take away **2** tens-bundles and there will be **5** of them left there.

We write what we have done like this:

$$\begin{array}{r} \mathbf{8\ 2} \\ \mathbf{-2\ 5} \\ \hline \mathbf{5\ 7}\ \text{Ans.} \end{array}$$

5 from **2**......... I cannot.
Break up **1** tens-bundle.
5 from **12** leaves **7.**
Put down **7.**

Now instead of taking away **2** from **8**, we take away **3** from **8** because we have to show that we have already taken away a tens-bundle.

3 from **8** leaves **5.**
Put down **5.**

Take away **38** from **74.**

$$\begin{array}{r} \mathbf{7\ 4} \\ \mathbf{-3\ 8} \\ \hline \mathbf{3\ 6}\ \text{Ans.} \\ \hline \end{array}$$

8 from **4**.........I cannot.
Break up **1** tens-bundle.
8 from **14** leaves **6.**
Put down **6.**
4 from **7** leaves **3.**
Put down **3.**

EXERCISES

L. *Write answers only*	*Copy*	**R.** *Write answers only*	*Copy*
(1) **65** **—27**	(6) **42** **—37**	(1) **55** **—27**	(6) **32** **—25**
(2) **53** **—28**	(7) **93** **—17**	(2) **63** **—38**	(7) **53** **—25**
(3) **63** **—39**	(8) **75** **—38**	(3) **73** **—49**	(8) **72** **—26**
(4) **65** **—39**	(9) **34** **—29**	(4) **75** **—48**	(9) **37** **—29**
(5) **87** **—29**	(10) **85** **—28**	(5) **46** **—19**	(10) **57** **—28**

Write all your work

L.	R.
(11) From **65** take **28.**	(11) From **55** take **39.**
(12) Subtract **37** from **63.**	(12) Subtract **27** from **53.**
(13) Take **28** from **51.**	(13) Take **38** from **81.**
(14) From **34** take **25.**	(14) From **64** take **25.**
(15) From **63** subtract **24.**	(15) From **73** subtract **44.**
(16) From **90** take **35.**	(16) From **80** take **64.**
(17) Take **30** from **62.**	(17) Take **40** from **92.**

(**0** left in the units compartment)

Let us now do this subtraction sum with the help of the Addition Box.

$$\begin{array}{r} 6\ 4 \\ -3\ 4 \\ \hline \\ \hline \end{array}$$

If we take away **4** sticks from the units-compartment, there will be nothing left in it. In the tens-compartment there will be **3** bundles left.

How shall we write our answer ?

We write **3** in the tens-columns.

What about the units-column ?

We must write **0** there; otherwise, the **3** will not be read as **3** tens.

Our answer is **30.**

So when we write our work,

$$\begin{array}{r} 6\ 4 \\ -3\ 4 \\ \hline 3\ 0 \\ \hline \end{array}$$

we say **4** from **4** leaves **0;** put down **0.**

3 from **6** leaves **3;** put down **3.**

To work

$$\begin{array}{r} 5\ 3 \\ -4\ 7 \\ \hline 6 \\ \hline \end{array}$$

7 from **3**...I cannot; so break up a bundle from the tens-compartment.

7 from **13** leaves **6;** put down **6.**

5 from **5** leaves **0.** We need not put down **0.**

The answer is **6.**

(1) **35**
−15

(2) **30**
−15

(3) **45**
− 5

(4) **87**
−19

(5) **82**
−80

(6) **73**
−33

(7) **73**
−68

(8) **67**
−27

(9) **60**
−27

(10) **84**
−76

(11) From **34** take **28.**

(12) From **65** take **35.**

(13) Take away **32** from **61.**

(14) Take away **33** from **61.**

(15) Take away **44** from **71.**

(16) **83−63.**

(17) **83−64.**

(18) **83−79.**

(19) **80−26.**

(20) **73−29.**

(1) There are **76** rungs on a ladder. If you have already climbed **28** rungs, how many more are there still to climb ?

(2) There are **76** rungs on a ladder. If you have **39** rungs more to climb, how many have you already climbed ?

(3) I climbed **32** rungs on a ladder and then found that there were **28** rungs more to climb. How many rungs has the ladder ?

(4) Daddy had **50** cigars in his box. He smokes **3** cigars a day. How many cigars will he have left at the end of a week ?

(5) Add **43** to the number that comes after it.

(6) Take thirty-five from sixty-three, and write your answer in words.

(7) Subtract twenty-eight from forty-one, and then add thirty-seven to your answer.

(8) Add thirty-five and forty-seven, and then take twenty eight from your answer.

(9) Add **53** to the number which is **10** less than it.

(10) Add **43** to the number which is **7** greater than it.

(11) In a garden, there are **37** rose plants. How many more must I put down to have **55** rose plants?

(12) If I put down **38** more rose plants in my garden I shall have **53** rose plants. How many rose plants have I now ?

480

ADDITION

(Large numbers)

First Copy

(1) 321
+465

(2) 569
+432

(3) 867
+233

(4) 3256
+7819

(5) 7325
+6738

(6) 9864
+7397

(7) 9064
+ 207

(8) 6153
+7870

(9) 5079
+921

Write answers only

(1) 407
+704

(2) 899
+998

(3) 675
+309

(4) 835
+838

(5) 906
+135

(6) 632
+357

(7) 63
+1769

(8) 732
+2698

(9) 7077
+8808

First Copy

(1) 327+658

(2) 714+815

(3) 902+750

(4) 685+586

(5) 471+629

(6) 954+459

(7) 326+897

(8) 786+39

Write answers only

(1) 409+65

(2) 99+688

(3) 705+637

(4) 666+805

(5) 777+688

(6) 76+325

(7) 906+448

(8) 565+397

R.I. W.S. MADRAS
Date 1. 2. 2008
Accn. No 13011

(Large numbers)

Example

9 2 5 6 9 from 6...I cannot. **9** from **16** leaves **7.**
−7 3 2 9 3 from 5 leaves **2.**
3 from 2...I cannot. **3** from **12** leaves **9.**
1 9 2 7 Ans. **8** from **9** leaves **1.**

9 1 0 3 5 from 3...I cannot. **5** from **13** leaves **8.**
−3 7 4 5 5 from 0...I cannot. **5** from **10** leaves **5.**
8 from 1...I cannot. **8** from **11** leaves **3.**
5 3 5 8 Ans. **4** from **9** leaves **5.**

Copy

(1) **827**
−168

(2) **504**
−277

(3) **658**
−209

(4) **700**
−265

(5) **333**
−277

(6) **532**
−307

Copy

(1) **8673**
−1785

(2) **3256**
−2709

(3) **6000**
−3876

(4) **1675**
− 999

(5) **8307**
−6278

(6) **7050**
−5070

Write answers only

(1) **8307**
−2609

(2) **7182**
−5096

(3) **7182**
− 96

(4) **8005**
− 326

(5) **7358**
−2619

(6) **7050**
−4368

(1)	(2)	(3)
19—	**29**—	**39**—
18—	**28**—	**38**—
17—	**27**—	**37**—
16—	**26**—	**36**—
15—	**25**—	**35**—
14—	**24**—	**34**—
13—	**23**—	**33**—
12—	**22**—	**32**—
11—	**21**—	**31**—
10—	**20**—	**30**—
9—	**19**—	**29**—
8—	**18**—	**28**—
7—	**17**—	**27**—
6—	**16**—	**26**—
5—	**15**—	**25**—
4—	**14**—	**24**—
3—	**13**—	**23**—
2—	**12**—	**22**—
1—	**11**—	**21**—
0—	**10**—	**20**—

EXERCISES

Ladder (1)
Start at rung **6** and go up **7** steps.
6+7=13.

Ladder (2)
Start at rung **16** and go up **7** steps.
16+7=23.

Ladder (3)
Start at rung **26** and go up **7** steps.
26+7=33.

Ladder (1) Start at **5** and go up **9** steps.

$5+9=14$

Ladder (2) $15+9=24$

Ladder (3) $25+9=34$

Continue with the help of the ladders.

(1) $7+8=15$	(1) $9+8$	(1) $4+7$	(1) $6+5$
(2) $15+8$	(2) $17+8$	(2)	(2)
(3) $23+8$	(3)	(3)	(3)
(1) $8+6=14$	(1) $6+6=12$	(1) $5+5=10$	(1) $6+4=10$
(2)	(2)	(2)	(2)
(3)	(3)	(3)	(3)
(1) $7+5=12$	(1) $7+7=14$	(1) $8+8=16$	(1) $3+7=10$
(2)	(2)	(2)	(2)
(3)	(3)	(3)	(3)
(1) $7+3=10$	(1) $2+8=10$	(1) $9+9=18$	(1) $5+5=10$
(2)	(2)	(2)	(2)
(3)	(3)	(3)	(3)
(1) $9+5=14$	(1)		
(2)	(2)		
(3)	(3)		

$$\begin{array}{rr} & 57\\ + & 35\\ + & 49\\ \hline & 141\\ \hline \end{array}$$

(3 Lines)

Upwards

9 and **5** give **14; 14** and **7** give **21.**
Put down **1** and carry **2.**
2 and **4** give **6; 6** and **3** give **9;9** and **5** give **14.**
put down **14.**

Check. *Downwards.*

7 and **5** give **12; 12** and **9** give **21.**
Put down **1** and carry **2.**
2 and **5** give **7; 7** and **3** give **10;**
10 and **4** give **14;** put down **14.**

EXERCISES

Add Upwards
Check your answer by
Adding Downwards

(1) $$\begin{array}{r}32\\25\\66\\\hline\\\hline\end{array}$$

(2) $$\begin{array}{r}39\\21\\48\\\hline\\\hline\end{array}$$

(3) $$\begin{array}{r}17\\28\\39\\\hline\\\hline\end{array}$$

(4) $$\begin{array}{r}28\\46\\88\\\hline\\\hline\end{array}$$

(5) $$\begin{array}{r}20\\46\\77\\\hline\\\hline\end{array}$$

(6) $$\begin{array}{r}95\\68\\39\\\hline\\\hline\end{array}$$

74+25+37 $$\begin{array}{r}74\\25\\37\\\hline\\\hline\end{array}$$

Add Downwards
Check your answer by
Adding Upwards

(1) $$\begin{array}{r}28\\88\\35\\\hline\\\hline\end{array}$$

(2) $$\begin{array}{r}86\\57\\78\\\hline\\\hline\end{array}$$

(3) $$\begin{array}{r}85\\65\\95\\\hline\\\hline\end{array}$$

(4) $$\begin{array}{r}29\\36\\27\\\hline\\\hline\end{array}$$

(5) $$\begin{array}{r}54\\88\\68\\\hline\\\hline\end{array}$$

(6) $$\begin{array}{r}54\\69\\78\\\hline\\\hline\end{array}$$

(7) **53+68+49**
(8) **97+50+63**
(9) **89+87+56**
(10) **79+85+60**
(11) **93+97+96**
(12) **87+75+82**
(13) **97+63+69**
(14) **87+94+69**

Write answers only

Add from *Left* to right

(1) **27+35+14**
(2) **89+16+25**
(3) **33+58+65**
(4) **61+15+ 9**
(5) **8+63+25**
(6) **29+ 7+16**

Write answers only

Add from *Right* to left

(7) **56+64+67**
(8) **92+25+17**
(9) **44+38+15**
(10) **63+15+ 5**
(11) **8+ 9+27**
(12) **36+88+ 7**

EXERCISES

Add

(1) **325** **214** **327**	(2) **63** **215** **722**	(3) **288** **222** **156**	(4) **505** **660** **79**
(5) **516** **278** **126**	(6) **815** **9** **276**	(7) **7** **88** **905**	(8) **888** **999** **777**
(9) **654** **456** **207**	(10) **312** **265** **528**	(11) **35** **46** **999**	(12) **463** **927** **310**
(13) **305** **294** **37**	(14) **756** **200** **389**	(15) **305** **470** **296**	(16) **378** **627** **915**

Oral and Practical

Teacher's Note:

The exercises set out here are intended to be only examples of the extensive practical work that should be undertaken at this stage. The work should be done with actual articles with price-tags on them and cardboard "coins" used.

(1) Buy and pay from P., **2**-P. and **5**-P. bits.

a pencil	for **7** P.
a marble	for **5** P.
lemon drops	for **9** P.

etc.

(2) Buy and pay from **10**-P. pieces and P.

a pencil	for **12** P.
a pen	for **33** P.
a top	for **45** P.
a ball	for **67** P.

etc.

(3) Buy and pay from **10**-p. **5**-P. pieces and P.

a pencil	for **17** P.
a pen	for **36** P.
a ball	for **68** P.

etc.

(4) Buy and pay from **10**-P. pieces, **5**-P. pieces, **2**-P. pieces and P.

a ball	for **65** P.
a book	for **68** P.
a pen	for **69** P.

Oral and Practical

(5) Buy articles priced at	Give the Shopkeeper	Receive change
7 P.	a **10**-P. bit	....
8 P.	a **10**-P. bit.	....
6 P.	**2** 5-P. bits	....
6 P.	a 5-P. bit and a 2-P. bit	....
	etc.	
(6) **12** P.	a **10**-P. bit and a 5-P. bit	....
16 P.	a **10**-P. bit and a 5-P. bit and a 2-P. bit	....
	etc.	
(7) **16** P.	**2 10**-P. bits	
17 P.	**2 10**-P. bits	
	etc.	
(8) **5** P.	a quarter-rupee	
6 P.	a ,, ,,	
11 P.	a ,, ,,	
17 P.	a ,, ,,	
22 P.	a ,, ,,	

ADDITION

Add P.
32
25
14
71 Ans. **71** P.

EXERCISES

Add

(1) P.
23
52
15

(2) P.
35
6
27

(3) P.
7
25
25

(4) P.
17
18
56

(5) P.
21
35
40

(6) P.
32
25
9

(7) P.
16
8
9

(8) P.
85
4
12

(9) P.
43
30
25

Rupee **1**=**100** paise.
Re. **1**=**100** P.

Rs.	P.		P.
7	**35**	can be written	as **735**
4	**27**	,, ,,	as **427**
5	**83**	,, ,,	as **583**
7	**8**	,, ,,	as **708**
7	**80**	,, ,,	as **780**

P.		Rs.	P.
735	can be written	as **7**	**35**
854	,, ,,	as **8**	**54**
750	,, ,,	as **7**	**50**
705	,, ,,	as **7**	**5**

Write as P. only—

(1) Rs. 8 35 P.
(2) Rs. 9 27 P.
(3) Rs. 15 84 P.
(4) Rs. 8 5 P.
(5) Rs. 9 70 P.
(6) Rs. 17 07 P.
(7) Rs. 10 10 P.
(8) Rs. 10 1 P.
(9) Rs. 32 17 P.
(10) Rs. 64 6 P.
(11) Rs. 73 60 P.
(12) Rs. 73 65 P.

Write as Rs. P.

(13) 742 P.
(14) 740 P.
(15) 815 P.
(16) 704 P.
(17) 666 P.
(18) 377 P.
(19) 1302 P.
(20) 1320 P.
(21) 600 P.
(22) 1000 P.

ADDITION

Example (1) Add

Rs. P.
3 73
2 25
5 98 Ans.

Example (2) Add

Rs. P.
3 73 Carry 1 to the
2 45 Rs. column
6 18 Ans.

EXERCISES

Add

	Rs.	P.		Rs.	P.		Rs.	P.
(1)	**3**	**17**	(2)	**3**	**35**	(3)	**3**	**35**
	5	**28**		**2**	**78**		**4**	**65**

	Rs.	P.		Rs.	P.		Rs.	P.
(4)	**8**	**43**	(5)	**5**	**55**	(6)	**17**	**03**
	9	**7**		**6**	**66**		**18**	**37**

	Rs.	P.		Rs.	P.		Rs.	P.
(7)	**8**	**37**	(8)	**3**	**32**	(9)	**4**	**82**
	9	**70**		**4**	**43**		**0**	**67**
	3	**55**		**9**	**05**		**5**	**53**

	Rs.	P.		Rs.	P.		Rs.	P.
(10)	**7**	**25**	(11)	**0**	**93**	(12)	**8**	**16**
	3	**02**		**8**	**03**		**7**	**06**
	5	**86**		**5**	**30**		**0**	**99**

SUBTRACTION

Example (1)

Rs. P.
7 67
—3 42
4 25 Ans. Rs. 4 25 P.

Example (2)

Rs. P.
7 43
—2 58
4 85 Ans. Rs. 4 85 P.

EXERCISES

Subtract—

(1) Rs. P.
8 35
—7 24

(2) Rs. P.
8 47
—3 29

(3) Rs. P.
9 31
—4 56

(4) Rs. P.
9 47
—8 68

(5) Rs. P.
15 77
—4 46

(6) Rs. P.
27 60
—14 06

(7) Rs. P.
32 75
—14 25

(8) Rs. P.
100 10
—84 76

(9) Rs. P.
100 00
—55 36

(10) Rs. P.
67 35
—0 59

(11) Rs. P.
134 24
—67 45

(12) Rs. P.
431 00
—131 65

In future we shall write

Rs. **7** **32** P. as Rs. **7.32**
Rs. **8** **45** P. as Rs. **8.45**
Rs. **6** **70** P. as Rs. **6.70**

and so on.

The "point" tells us that the figures to the right of it are so many paise. It is called "the paisa point."

EXERCISES

(1) Fill in the blanks

Rs.	P.		Rs.
7	**52**	is written	**7.52.**
8	**63**	,,	
9	**75**	,,	
15	**15**	,,	
15	**70**	,,	
63	**7**	,,	**63.07.**
85	**6**	,,	
70	**8**	,,	
9	**5**	,,	
9	**50**	,,	
0	**17**	,,	**0.17.**
0	**28**	,,	
0	**35**	,,	
0	**7**	,,	

(2) Read in Rs. and P.

Rs. **7.52** reads Rs. **7** **52** P.
Rs. **8.76** ,,
Rs. **9.70** ,,
Rs. **82.75** ,,
Rs. **82.05** ,,
Rs. **0.76** ,,
Rs. **0.05** ,,

Add

Rs.
7.65
+3.27
+4.63

15.55 Ans. (Read Rs. **15 55** P.)

Subtract

Rs.
8.64
−5.39

3.25 Ans. (Read Rs. **3 25** P.)

EXERCISES

Add

(1) Rs.
3.75
2.06
3.27

(2) Rs.
4.65
3.74
8.65

(3) Rs.
7.33
8.66
9.07

(4) Rs.
17.62
18.35
29.42

(5) Rs.
16.05
17.50
23.07

(6) Rs.
27.63
82.75
43.22

Subtract

(7) Rs.
7.62
−4.25

(8) Rs.
8.62
−4.71

(9) Rs.
8.62
−3.93

(10) Rs.
9.05
−6.50

(11) Rs.
8.66
−7.75

(12) Rs.
9.00
−4.56

(13) Rs.
9.00
−8.74

(14) Rs.
10.76
−3.89

(15) Rs.
10.67
−9.48

(16) Rs.
76.42
−23.24

(17) Rs.
86.34
−27.00

(18) Rs.
83.55
−0.78

(19) Rs.
831.65
−214.77

(20) Rs.
634.25
−576.43

(21) Rs.
1000.00
−732.48

Now rework the Addition and Subtraction sums given on pages 29, 31, 32, writing the amounts this time with the paisa point.

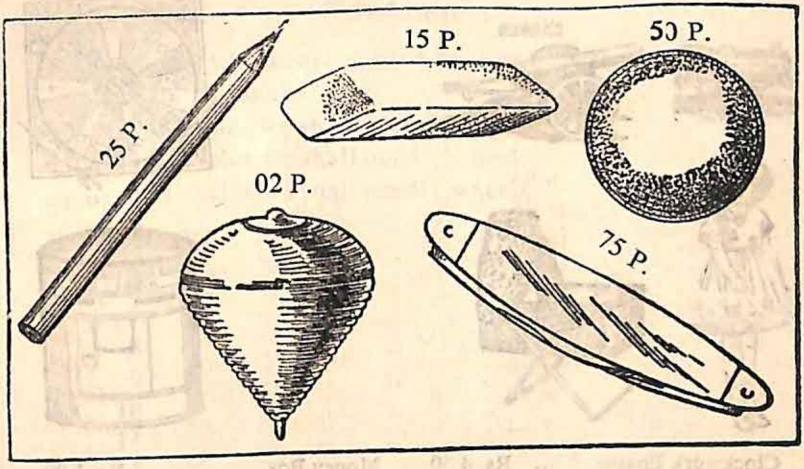
EXERCISES

Arrange and add—

(1) Rs. **7.63**; Rs. **8.42**; Rs. **9.63**
(2) Rs. **6.05**; Rs. **7.50**; Rs. **10.44**
(3) Rs. **17.55**; Rs. **13.62**; Rs. **19.05**
(4) Rs. **10.05**; Rs. **57.93**; Rs. **32.60**
(5) Rs. **35.67**; Rs. **83.83**; Rs. **74.46**
(6) Rs. **7.63**; Rs. **70.36**; Rs. **93.54**
(7) Rs. **0.73**; Rs. **73.00**; Rs. **6.82**
(8) Rs. **64.50**; Rs. **762.47**; Rs. **6.05**
(9) Rs. **8.34**; Rs. **83.40**; Rs. **834.00**
(10) Rs. **7.64**; Rs. **76.45**; Rs. **764.50**
(11) Rs. **832.45**; Rs. **62.54**; Rs. **0.75**
(12) Rs. **76.75**; Rs. **0.83**; Rs. **764.47**
(13) Take Rs. **73.54** from Rs. **92.96**.
(14) Take Rs. **73.54** from Rs. **92.45**.
(15) From Rs. **93.62** take Rs. **43.45**.
(16) From Rs. **32.65** take Rs. **31.75**.
(17) From Rs. **83.45** take Rs. **79.67**.
(18) Subtract Rs. **762.45** from Rs. **1000.00**.
(19) Subtract Rs. **100.00** from Rs. **762.45**.
(20) From Rs. **70.70** take Rs. **7.07**.

Fill in the blanks—

(21) Rs. **73.45** + = Rs. **82.77**
(22) Rs. **65.24** + Rs. **34.33** =
(23) + Rs. **25.86** = Rs. **36.66**
(24) Rs. **76.82** + = Rs. **90.00**


15 P.
50 P.
25 P.
02 P.
75 P.

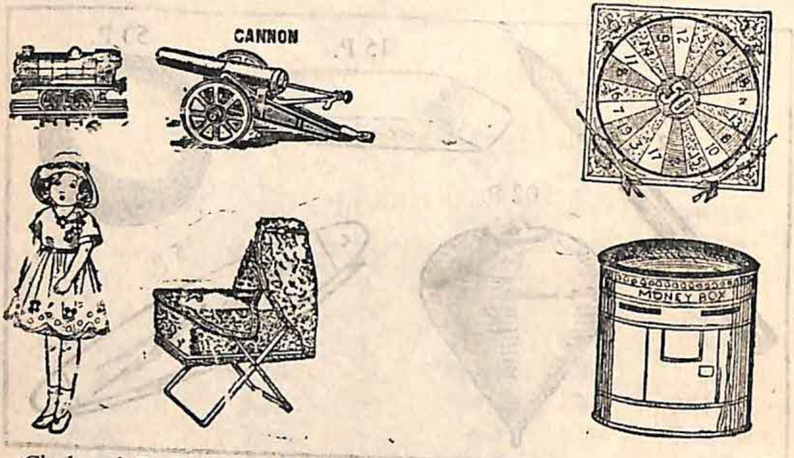
What must I pay for:

(1) A pencil and a top?
(2) A pencil and a rubber?
(3) A penknife and a ball?
(4) **2** pencils and a top?
(5) **2** rubbers and a ball?
(6) **2** balls and **2** pencils?

(7) A pencil, a penknife, and a top?
(8) A pencil, a ball and a top?
(9) A pencil, a penknife, a top and a rubber?
(10) **2** tops, a rubber and a ball?

(1) A top and a rubber?
(2) A pencil and a ball?
(3) A penknife and a top?
(4) A top and **3** pencils?
(5) **2** balls and a rubber?
(6) A penknife and **2** pencils?
(7) A pencil, a penknife and a rubber?
(8) A pencil, a ball and a penknife?
(9) A pencil, a penknife, a rubber and a ball?
(10) **3** tops, a rubber and a penknife?

(11) How can you spend exactly **45** P.?
(12) What would you have to pay if you bought one of each?
(13) How can you spend exactly **75** P.?
(14) How can you spend exactly Re. **1**?



Clockwork Engine ...	Rs. 4.50	Money Box ...	Rs. 1.90
Set of Darts ...	Rs. 3.25	Skipping Rope ...	Rs. 2.75
Toy Cannon ...	Rs. 2.80	Doll ...	Rs. 3.50
Doll's Cot ...	Rs. 7.75		

(1) If I buy for Betty a skipping rope and a doll, I shall have to pay.........

(2) If I buy for Tom a toy cannon and an engine, I shall have to pay.........

(3) If I buy for myself a money box and darts, I shall have to pay.........

(4) If I buy for Mary a doll, a doll's cot and a money box, I shall have to pay.........

(5) If I buy for John an engine, a money box and darts, I shall have to pay.........

(6) If I buy a skipping rope for Mary, a money box for John, a set of darts for Jim, and a doll for Jean, I shall have to pay.........

(7) If I buy for four of my girl friends a doll each, I shall have to pay.........

(8) Two of the presents cost together as much as the doll's cot. Which presents are these?

**"*Bi-Cycles*"

(1) How many wheels are needed for one bi-cycle?
Fill in the blanks:

For **1** bi-cycle we shall need **2** wheels.
,, **2** bi-cycles we shall need wheels.
,, **3** bi-cycles we shall need wheels.
,, **4** ,, ,, ,, ,, ,,...........
,, **5** ,, ,, ,, ,, ,,...........
,, **6** ,, ,, ,, ,, ,,...........
,, **7** ,, ,, ,, ,, ,,...........
,, **8** ,, ,, ,, ,, ,,...........
,, **9** ,, ,, ,, ,, ,,...........
,, **10** ,, ,, ,, ,, ,,...........
,, **11** ,, ,, ,, ,, ,,...........
,, **12** ,, ,, ,, ,, ,,

(2) "Dodging about."

"Twice" Tables

0	**1**	**2**	**4**	**7**	**9**	**6**	**10**	**11**	**3**	**5**	**8**	**12**
0	**2**	**4**	**8**	**14**	**18**	**12**	**20**	**22**	**6**	**10**	**16**	**24**

*Cover up the lower line and read "twice **7** is **14**" etc.
also "**7**×**2** is **14**" etc.
also "**2**×**7** is **14**" etc.

Then cover up the top line and read "**2** goes into **14**, **7** times" etc.

"There are **7** twos in **14**" etc.

(3) How many bi-cycles can be made
(1) if **4** wheels are used?
(2) if **24** wheels are used?
(3) if **12** wheels are used?
(4) if **16** wheels are used?
(5) if **20** wheels are used?
(6) if **8** wheels are used?

**Tri-Cycles

(1) Fill in the blanks:

1 tri-cycle ……has……**3** wheels.
2 tri-cycles……have……**6** wheels.
3 …………
4 …………
5 …………
6 …………
7 …………
8 …………
9 …………
10 …………
11 …………
12 …………

(2) "Dodging about."

3 times

0	**1**	**4**	**3**	**5**	**2**	**6**	**9**	**7**	**10**	**8**	**11**	**12**
0	**3**	**12**	**9**	**15**	**6**	**18**	**27**	**21**	**30**	**24**	**33**	**36**

*Cover up the lower line and read "3 times **4** is **12**" etc.
also "**4** × **3** is **12**" etc.
also "**3** × **4** is **12**" etc.

Then cover up the top line and read
"**5** goes into **15**. **3** times", etc.
"There are **5** threes in **15**", etc.

(3) How many tri-cycles are being made
- (1) if **3** wheels have to be used?
- (2) if **12** wheels have to be used?
- (3) if **21** wheels have to be used?
- (4) if **27** wheels have to be used?
- (5) if **33** wheels have to be used?
- (6) if **15** wheels have to be used?
- (7) if **36** wheels have to be used?

FOURS

**CARS

(Oral and blackboard)

cars	front wheels	back wheels	wheels
(1) **1** car has	**2**	+ **2**	**4** in all.
2 cars have	**4**	+ **4**	**8** in all.
3 have	**6**	+ **6**	**12** in all.
4 have	**8**	+ **8**	**16** in all.
5 have	**10**	+**10**	**20** in all.
6 have	**12**	+**12**	**24** in all.
7 have	**14**	+**14**	**28** in all.
8 have	**16**	+**16**	**32** in all.
9 have	**18**	+**18**	**36** in all.
10 have	**20**	+**20**	**40** in all.
11 have	**22**	+**22**	**44** in all.

4 times

0	**3**	**5**	**7**	**2**	**4**	**8**	**12**	**6**	**11**	**10**	**9**	**1**
0	**12**	**20**	**28**	**8**	**16**	**32**	**48**	**24**	**44**	**40**	**36**	**4**

*Cover up the lower line and read "**4** times **3** is **12**" etc.
also "**4** × **3** =**12**" etc.
also "**3** × **4** =**12**" etc.

*Cover up the top line and read
"**4** goes into **12**, **3** times" etc.,
"There are **3** fours in **12**",
etc.*

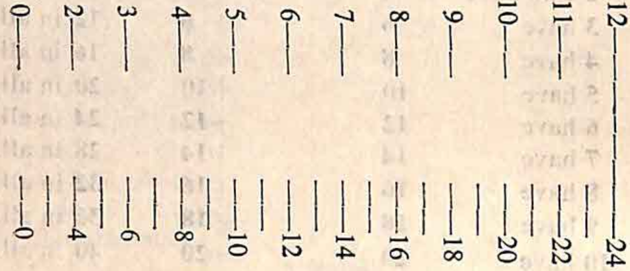
(Oral and Blackboard)

12 wheels are needed for **3** cars.

28 wheels are needed for **7** cars.

*Continue.

Jumps of **2**



Look at the figure and answer:

Jumps of **4**		Jumps of **2**
3	=	**6**
5	=	**?**
7	=	**?**
8	=	**?**
?	=	**12**
?	=	**16**
?	=	**8**

RACES

Write answers only

(*e*) **7+9−8=**
(*d*) **7+9+8=**
(*c*) **3×8=**
(*b*) **8×3=**
(*a*) **5×4=**

(*e*) **17+7+ 6=**
(*d*) **×4=28**
(*c*) **28+3=**
(*b*) **5+3=**
(*a*) **5×3=**

(*e*) **19−8+8=**
(*d*) **19+7−7=**
(*c*) **63−29=**
(*b*) **32+28=**
(*a*) **18+6−0=**

Long Way
7
+7
+7
+7
28

Short Way
7×4
4
28

Work the following sums both the long way and the short way:

(1) **8+8+8+8**
(2) **5+5+5**
(3) **9+9+9**
(4) **7+7**
(5) **9+9+9+9**
(6) **6+6+6+6**
(7) **6+6+6**
(8) **4+4+4+4+4**

Whenever you can work a sum the short way, you must do so.

(1) John has **6** marbles, Harry **3** marbles, James **9** marbles and Tom **8** marbles. How many marbles in all?

(2) John, Harry, James and Tom have **9** marbles each. How many marbles in all?

(3) In my stamp album, there are **9** stamps on the first page, **8** stamps on the second page and **6** stamps on the third page. How many stamps on the three pages?

(4) In Tom's stamp album there are **8** stamps on each of the first three pages. How many stamps in all?

(5) Jane, Mary, Kate and Anne got 7 marks each. Tom got **5**, Harry got **9**, Dick got **6** and John got **8**. Who got more marks, the girls or the boys?

(2 and 3)

**Long Way*
23
+23
+23
69

Short Way
T U
2 3
× **3**
6 9

Work these sums both by the long way and the Short way:

Long Way
(1) **21**
+21
+21

(2) **32**
+32
+32

(3) **20**
+20
+20

Short Way

Work these sums the short way.

L.

(1) **31×3.**
(2) **43×2.**
(3) **40×2.**
(4) **42×2.**
(5) **30×3.**
(6) **53×3.**
(7) **64×2.**
(8) **42×3.**
(9) **52×2.**
(10) **40×3.**

R.

(1) **22×3.**
(2) **33×2.**
(3) **30×3.**
(4) **14×2.**
(5) **20×3.**
(6) **33×3.**
(7) **52×3.**
(8) **43×3.**
(9) **91×2.**
(10) **80×3.**

(2, 3, 4,)

Long Way	*Short Way*
27	**27**
+27	**× 4**
+27	
+27	**108** Carry **2** tens
108	

Work these sums both the long way and the short way:

Long Way	*Short Way*
(1) **23+23+23+23.**	....
(2)	**32×4.**
(3) **37+37+37+37.**	....
(4)	**43×4.**
(5) **25+25+25+25.**	....
(6)	**36×4.**

Short Way

Answers only	*Copy*	*Answers only*	*Copy*
(1) **43×3**=	(6) **37×4**=	(1) **38×2**=	(6) **70×2**=
(2) **26×4**=	(7) **36×3**=	(2) **38×4**=	(7) **36×4**=
(3) **50×4**=	(8) **80×3**=	(3) **24×3**=	(8) **45×3**=
(4) **35×4**=	(9) **29×4**=	(4) **46×4**=	(9) **90×4**=
(5) **79×2**=	(10) **39×4**=	(5) **17×3**=	(10) **29×4**=

(1) How many wheels will be needed for twenty-five tri-cycles?

(2) How many wheels will be needed for **18** cars?

(3) There are **24** chocolates in a tin. How many chocolates are there in **4** tins?

(4) Fifteen stamps can be pasted on one page. How many stamps can be pasted on three pages?

(5) At a party there were **35** boys, **47** girls and **18** grown-ups. How many people in all?

(6) At a picnic there were **26** girls, **26** boys and **26** grown-ups. How many in all?

(7) Teacher gave **26** boys **4** walnuts each. How many walnuts did she give in all?

(8) Teacher gave **4** girls **26** cards each. How many cards did she give in all?

(9) If father smokes **4** cigars a day, how many will he smoke in **15** days?

(10) If father smokes **13** cigarettes a day, how many will he smoke in **4** days?

(Multiplication: **2, 3, 4**)

(1) **3** bags of coal can be carried in a hand-cart. How many bags can be carried in **27** hand-carts?

(2) Twenty-seven bags of rice can be carried in a truck. How many bags can be carried in **3** trucks?

(3) Four panes of glass to a window. How many panes to **26** windows?

(4) Twenty-five eggs to a cake. How many eggs for **4** cakes?

(5) Twenty-nine pages to a book. How many pages for **3** books?

(6) Three pictures in a book. How many pictures in **33** books?

(7) **63** children put **4** paise each in a collection box. How many paise were collected? Write your answer in Rupees and paise.

(8) The wheels of a tri-cycle have **15** spokes each. How many spokes have they in all?

(9) There are **4** big potatoes to a pound. How many potatoes will there be in **23** pounds?

(10) There are **16** ounces in a pound. How many ounces will be equal to **4** pounds?

(11) A bag of coal weighs **23** kilograms. What is the weight of **4** bags of coal?

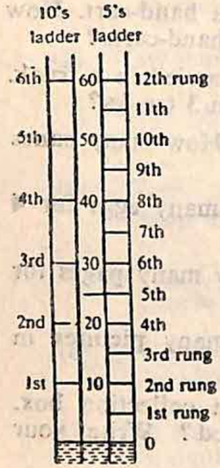
(12) A tri-cycle costs Rs. 46/-. How much must I pay for **3** tri-cycles?

(13) There are **1000** grams in one kilogram. How many grams are there in **3** kilograms?

(14) A tomato weighs **112** grams, what is the weight of **4** such tomatoes?

(15) At a tea party there are 36 tables with only **4** people sitting at each table. How many people are there at the party?

Twice Five=Ten



Drill

2 fives = 1 ten = 10.

4 fives = 2 tens = 20.

6 fives = 3 tens = 30.

8 fives = 4 tens = 40.

10 fives = 5 tens = 50.

12 fives = 6 tens = 60.

Notice that all "even" 5's end in 0.

Oral

(1) 20+5=
30−5=
30+5=
40−5=
40+5=
50−5=
50+5=
60−5=
60+5=
70−5=
70+5=
80−5=

(2) What number is mid-way between 30 and 40?
between 40 and 50?
between 10 and 20?
between 0 and 10?

(3) Fill in the "odd" 5's

0		2		4		6		8		10		12
0		10		20		30		40		50		60

5 times

0	**3**	**6**	**9**	**10**	**2**	**4**	**1**	**11**	**8**	**7**	**12**	**5**
0	**15**	**30**	**45**	**50**	**10**	**20**	**5**	**55**	**40**	**35**	**60**	**25**

Instructions: Read as for **3** and **4** times tables.

See pages 40, 41

EXERCISES

(1) Work this sum the short way:
17+17+17+17+17.

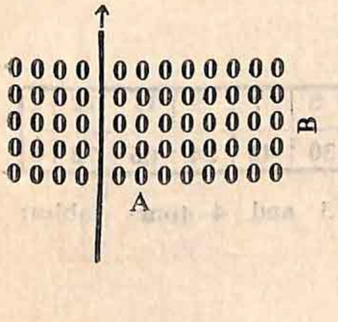
(2) Work this sum the short way:
5+5+5+5+5+5+5+5+5+5+5+5.

(3) If I put **10** mangoes in a box, I need **7** boxes for my mangoes. How many boxes shall I need if I put **5** mangoes in a box?

(4) Tom, Jane, Harry, John and Mary grabbed for plums. Tom got **4**, Jane got **6**, Harry got **1**, John got **12** and Mary got **7**. Teacher made them give her all back and she shared the plums equally. How many plums did each child get?

(5) Harry has **17** chocolate pictures. If his **5** friends each give him **7** pictures, how many pictures will he have?

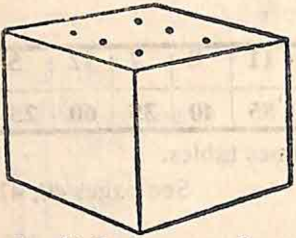
(6) If you write the word, "Table" **8** times, how many letters will you have written?



*First read with A towards you. "**5** rows of **4**=**20**".

Then read with B towards you. "**4** rows of **5**=**20**."

Then shift the arrowed line left or right and read again.



Here is a die. Notice that all the faces are exactly alike in size and shape.

What is the shape of each face? In what way is the shape of the die different from that of an ordinary box? How many faces has the die? Do you know why the faces have to be exactly alike?

**A die has the shape of a cube.

The highest score that can be thrown

with **1** die is	**6**
with **2** dice	**12**
with **3** dice	**18**
with **4** dice	**24**
with **5** dice	**30**
with **6** dice	**36**
with **7** dice (add **6**)	...
with **8** dice (double the score with **4**)	...
with **9** dice (add **6**)	...
with **10** dice (double the score with **5**)	...
with **11** dice (add **6**)	...
with **12** dice (double the score with **6**)	...

6 times

0	**2**	**4**	**6**	**8**	**3**	**10**	**5**	**7**	**9**	**11**	**12**	**1**
0	**12**	**24**	**36**	**48**	**18**	**60**	**30**	**42**	**54**	**66**	**72**	**6**

*Follow the directions for **3** and **4** times tables: also turn to back cover.

(1) I throw **5** dice, one four and the rest sixes. What is my score?

(2) I throw **7** dice; all sixes. What is my score?

(3) I throw **7** dice; two dice show three each and the rest show six each. What is my score?

(4) Harry and John each threw **5** dice.
Harry's dice showed **3, 2, 5, 6, 4.**
John's dice showed **4, 1, 6, 6, 2.**
Whose score was bigger?

(5) There are **30** boys in **6** equal rows. How many boys are there in each row?

(6) There are **30** boys in **5** equal rows. How many boys are there in each row?

(7) Teacher wishes to give **7** girls six beads each. She finds that she is two beads short. How many beads has teacher?

(8) Teacher took **8** apples from one boy, **6** apples from another, **4** apples from another, **12** apples from another, **10** apples from another and **8** apples from another. She then divided them equally between the boys. How many apples did each boy get?

RACES

	(i)	**(ii)**	**(iii)**
(1)	**7×6=**	**7×5=**	**×5=55**
(2)	**5×6=**	**6×4=**	**×6=72**
(3)	**12×6=**	**8×6=**	**×6=48**
(4)	**9×6=**	**11×6=**	**×6=36**
(5)	**4×6=**	**7×4=**	**×6=24**

Write your answers in *words.*

(1) **76×5**

(2) **37×5**

(3) **64×5**

(4) **70×6**

(5) **89×6**

(6) **47×6**

(7) **85×4**

(8) **45×6**

(9) **40×5**

(10) **32×5**

(11) **44×5**

(12) **99×2**

(13) **27×6**

(14) **55×4**

(15) **33×5**

(16) **32×5**

(17) **81×3**

(18) **66×6**

(19) **75×4**

(20) **95×4**

(21) **71×6**

(22) **30×6**

(23) **65×6**

(24) **52×5**

(25) **53×6**

(26) **37×5**

(27) **60×4**

(28) **59×3**

(29) **88×6**

(30) **93×6**

(31) Multiply sixty-three by six.

(32) Multiply seventy-nine by five.

(33) Multiply fifty by six.

(34) Multiply seventy-eight by four.

(35) Multiply forty-four by three.

(36) Multiply eighty-eight by six.

(37) Multiply ninety by five.

(38) Multiply sixty-eight by two.

(39) Multiply seventy-two by five.

(40) Multiply sixty-four by four.

LARGER NUMBERS

(1) 375×6
(2) 514×5
(3) 608×4
(4) 850×5
(5) 783×4
(6) 959×5
(7) 753×3
(8) 888×6
(9) 706×6
(10) 918×5
(11) 407×3
(12) 650×3
(13) 1563×5
(14) 2768×4
(15) 9137×6
(16) 9070×2
(17) 9280×6
(18) 3080×4
(19) 3687×5
(20) 3046×3
(21) 7132×4
(22) 1111×6
(23) 7000×5
(24) 8009×3
(25) 9005×4
(26) 3248×6
(27) 5090×4
(28) 5134×2
(29) 5678×4
(30) 6789×6

Write your answers in *Words*.

(31) Multiply two hundred and fifty-seven by five.

(32) Multiply three hundred and four by six.

(33) Multiply nine hundred and seventy by four.

(34) Multiply seven hundred and sixty-seven by three.

(35) Multiply one thousand seven hundred and forty-six by three.

(36) Multiply two thousand five hundred and six by six.

(37) What number is six times seven thousand and seven?

(38) What number is five times nine thousand six hundred?

(39) What number is four times nine thousand six hundred and six?

(40) What number is three times nine thousand eight hundred and ninety-eight?

EXERCISES

(*Oral and Practical*)

(1) Teacher will give you a ruler. On one edge it is marked in centimetres. Measure the lengths of the rods she gives you with it.

(2) On the large sheet of paper which your teacher has given you draw lines of the following lengths:
5 centimetres (cm), **6** cm, **12** cm, **9** cm, **15** cm.

The centimetre is used for measuring small lengths like the length of a pencil, the edge of an exercise book.

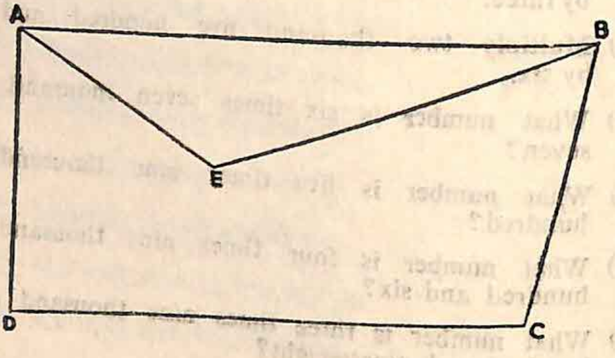
We measure in METRES (short'm')

(1) The length of a pole.
(2) The length of a classroom.
(3) The breadth of a classroom.
(4) The height of a tree.

The metre is divided into **100** equal parts and each part is called a centimetre.

100 centimetres=**1** metre (m).

Teacher will show you a metre ruler. Use this metre ruler to measure your blackboard and write your answer in.........metres.........cm. Measure the length and breadth of your classroom. Measure the height of (1) your class desk, (2) your teacher's table.



Measure the length of the lines drawn above using your ruler and write your answers as shown below:

AB — .... cm.
BC — .... cm.
CD — .... cm.
DA — .... cm.
AE — .... cm.
EB — .... cm.

Measure the distance between the points (1) D and E, (2) C and E, (3) M and C, (4) B and D.

Draw a line **6** cm long.

Under it draw a line **9** cm long.

How long would the line be if these two lines were placed end to end so as to form one long line?

Draw a line **11** cm long. Under it draw a line **7** cm long. How much longer is one line than the other? How much must be cut off the top line so as to make it equal in length to the lower line?

I place **8** pencils each **12** cm long, end to end, so as to make a straight line, how long will the line be?

A boy has two pencils, one **15** cm long and the other **9** cm long. How much must be cut off the long pencil so as to make it as short as the other?

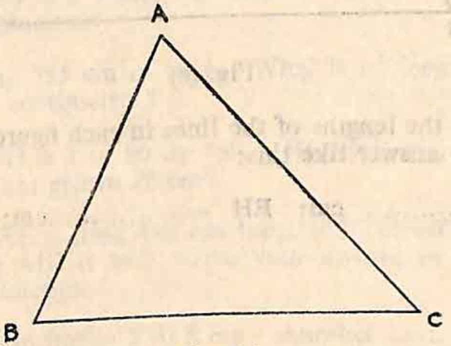


Fig. (a)

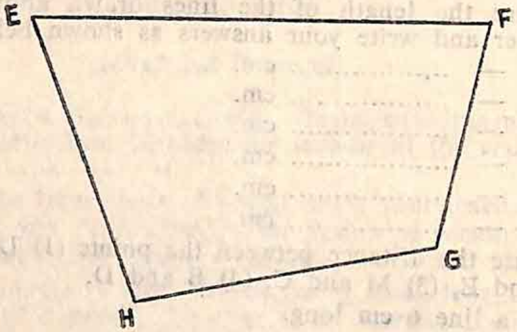


Fig. (b)

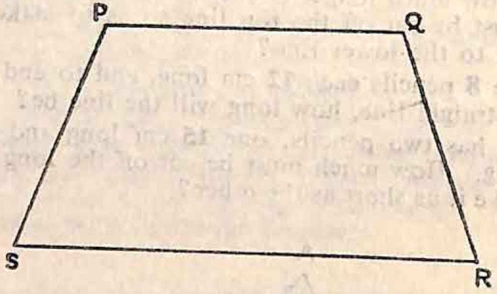


Fig. (c)

Measure the lengths of the lines in each figure, and write down your answer like this:

AB — .... cm; EH — ....cm; and so on.

EXERCISES

(1) Draw a line **7** cm long. Then make it **6** cm longer. How long is it now?

(2) Draw a line **13** cm long and cut off **4** cm from one end. What is the length of the part that remains?

(3) Draw a line **5** cm long and another line **9** cm long. What is the total length of both lines?

Whenever the number of centimetres is greater than **100** we must write **1** metre for every **100** centimetres.

125 cm is equal to **100** cm+**25** cm.

Therefore it is written as **1** meter **15** centimetres or **1** m **25** cm.

'm' is short for metere or metres.

'cm' is short for centimetre or centimetres.

Write the following in metres and centimetres:

175 cm, **192** cm, **200** cm, **315** cm, **425** cm.

975 cm, **111** cm, **323** cm, **501** cm, **822** cm.

(1) A boy is **1** metre **60** cm tall. What is his height in centimetres?

(2) I buy **355** cm of tape. What is its length in metres and centimetres?

(3) A girl is **1** m **80** cm tall. How tall will she be after she has grown **25** cm?

(4) I have a stick **113** cm long, if I cut off **5** cm, how long will it be? Give your answer in metres and centimetres.

(5) A man jumps **2** m **5** cm. Another man jumps **7** cm less. How high does the second man jump?

(6)
m cm
76 5
+84 73

(7)
m cm
10 51
+12 49

(8)
m cm
15 92
+24 49

(9)
m cm
35 43
+92 89

(10)
m cm
87 41
+49 63

(11)
m cm
48 24
−36 11

(12)
m cm
25 49
−14 35

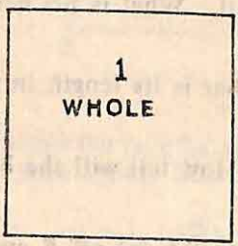
(13)
m cm
36 0
−22 82

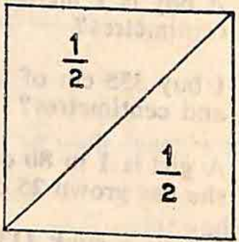
(14)
m cm
49 40
−25 60

(15)
m cm
96 32
−48 92

(16)
m cm
27 32
−19 69

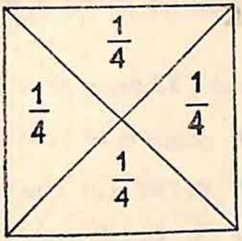
HALVES AND QUARTERS





$\frac{1}{2}+\frac{1}{2}=1.$

$\frac{1}{2}+\frac{1}{2}+\frac{1}{2}=$Three halves
=one whole & one half
=one and a half.



$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=1$.

$\frac{1}{4}+\frac{1}{4}=\frac{1}{2}$ (half).

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{3}{4}$ (three quarters).

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=1\frac{1}{4}$ or $\frac{5}{4}$ (five quarters).

Add:

(1) $2\frac{1}{2}$ $1\frac{1}{2}$	(2) $3\frac{1}{2}$ $2\frac{1}{2}$	(3) $5\frac{1}{2}$ $4\frac{1}{2}$	(4) $6\frac{1}{2}$ $3\frac{1}{2}$	(5) $18\frac{1}{2}$ $9\frac{1}{2}$	(6) $7\frac{1}{4}$ $2\frac{1}{4}$
(7) $4\frac{1}{4}$ 2 $5\frac{1}{4}$	(8) $3\frac{1}{4}$ $2\frac{1}{4}$ $1\frac{1}{4}$	(9) $12\frac{1}{4}$ $10\frac{1}{4}$ $4\frac{1}{4}$ $3\frac{1}{4}$	(10) $6\frac{1}{2}$ $3\frac{1}{4}$	(11) $7\frac{3}{4}$ $2\frac{1}{4}$	(12) $6\frac{3}{4}$ $4\frac{1}{2}$
(13) $7\frac{1}{2}$ $8\frac{3}{4}$		(14) $9\frac{1}{2}$ $15\frac{1}{4}$		(15) $17\frac{3}{4}$ $4\frac{1}{2}$ $9\frac{1}{4}$	

(1) Draw lines of the following lengths:
$3\frac{1}{2}$ cm, $4\frac{1}{2}$ cm, $6\frac{1}{2}$ cm, $11\frac{1}{2}$ cm, $15\frac{1}{2}$ cm.

(2) Draw a line **9** cm long and cut off $1\frac{1}{2}$ cm from one end. Measure the length that remains.

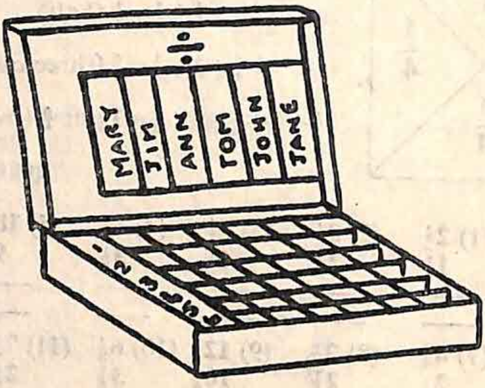
(3) Draw a line $7\frac{1}{2}$ cm long and cut off a length of $3\frac{1}{2}$ cm. What is the length of the remainder? Check your answer by measuring.

(4) Draw a line $4\frac{1}{2}$ cm long. Now make it longer by $3\frac{1}{2}$ cm. What is the full length of the line?

(5) Draw a line **8** cm. Divide it into two equal parts. What is the length of each part?

(6) Draw a line **5** cm long. Divide it into two equal parts. What is the length of each part?

PRACTICAL WORK



The drawing above shows a Division Box. Teacher will give you a Division Box and some cardboard counters.

Let us see how we could share **24** oranges between the six children whose names are written on the box.

Use your cardboard counters for oranges.
Take **24** counters.

First give each child one counter.

Then each child another counter and so on till all of the **24** counters have been given out. How many counters has each child been given?

Now use your counters to do these sharing sums:—

(1) Share **36** apples between Mary, Jim, Ann and Tom.
(2) Share **40** sweets between five of the children.
(3) Share **32** oranges between **4** of the children.
(4) Share **24** mangoes between **4** of the children.
(5) Share **30** lemons between all six of the children.

Now let us do sharing sums without using the Division Box.

Let us share **24** oranges between 6 children:

We have **24** oranges. We give away **1** each **6** in all.

We now have **18** left. We give away **1** more each **6** in all.

We now have **12** left. We give away **1** more each **6** in all.

We now have **6** left. We give away **1** more each **6** in all.

We have none left.

Each child now has **4** oranges		Total
We have given away first	**6**	**6**
then	**6**	**12**
then	**6**	**18**
then	**6**	**24**
altogether **4** times **6**, that is		**24.**

We could have worked the sum in a shorter way by asking "How many **6**'s in **24**?" There are four **6**'s in **24**. So each child will get **4** oranges.

Work these sums the *Long Way* and the *Short Way*.

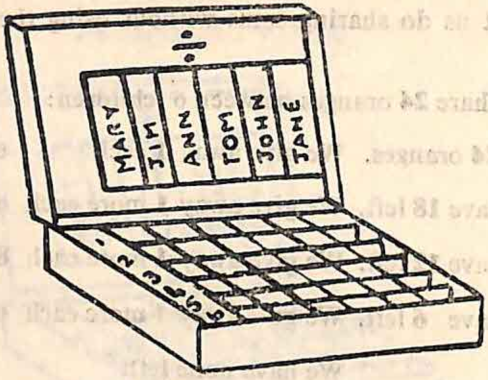
(1) Share **24** marbles between **4** boys.

(2) Share **30** marbles between **6** boys.

(3) Share **25** oranges between **5** children.

(4) Share **18** ribbons between **6** girls.

(5) Share **42** apples between **6** children.



Let us use the Division Box to work this sum.

I have **20** oranges and I have to give **4** each to a number of children. How many children will get oranges?

We first put **4** oranges in Mary's tray,
then **4** oranges in Jim's tray,
and so on.

How many children can you give the oranges to?

Use your Division Box to do these sums:—

(1) To how many children can you give **36** marbles if you give them **6** marbles each?

(2) To how many children can you give **12** marbles if you give them **4** marbles each?

(3) To how many children can you give **20** oranges if you give them **5** oranges each?

(4) To how many children can you give **18** apples if you give them **3** apples each?

(5) To how many children can you give **16** apples if you give them **4** apples each?

Let us work this sum without using the Division Box:-

I have to give each child **5** oranges and I have only **20** oranges to give away. How many children can I give the oranges to?

I first give Mary **5** oranges
and I have **15** left.
I then give Jim **5** oranges
and I have **10** left.
I then give Ann **5** oranges
and I have **5** left.
I then give Tom **5** oranges
and I have none left.

So only **4** children will receive oranges.

We can write our work like this:

		Total
Give away	**5**	**5**
another	**5**	**10**
another	**5**	**15**
another	**5**	**20**
So I can give away	**4**	**5**'s.

We could again have worked the sum a shorter way by asking first "How many **5**'s make **20**?" The answer is **4**.

Work the sums on page **62** both the long way and the short way.

Work these sums also:—

(1) **42** mangoes: parcles of **6.**
(2) **50** grapes: bunches of **5.**
(3) **24** picture postcards: packets of **6.**
(4) **21** books: parcels of **3.**
(5) **72** sweets: packets of **6.**
(6) **44** flowers: bunches of **11.**

*(In the next two sets of exercises each sum should be worked first mentally the short way and then verified by the long way on the board).

EXERCISES

(*Oral and Blackboard*)

(1 Among how many boys can **32** oranges be shared if each boy is to get **4** oranges?

(2) Among how many boys can **35** mangoes be shared if each boy is to get **5** mangoes?

(3) Five picture postcards to a page; how many pages for **50** picture postcards?

(4) Sixteen boots: how many pairs?

(5) How many tri-cycles can be made if **36** wheels can be used?

(6) Six cakes of soap to a box; how many boxes will hold **42** cakes?

EXERCISES

(*Oral and Blackboard*)

(1) Among how many boys can **42** paise be shared if each boy is to get **4** paise? How many paise remain over?

(2) Among how many boys can **39** mangoes be shared if each boy is to get **5** mangoes? How many mangoes remain over?

(3) I must stick six stamps to each of my letters. If I have **56** stamps how many letters can I send?

(4) Five picture postcards fit on a page. How many pages for **52** postcards?

(5) Six cakes of soap fit in a box. How many boxes are needed for **45** cakes?

Share **54** marbles equally among **6** boys.

9×6=54.

So each boy gets **9** marbles.

EXERCISES

(*Oral*)

(1) Share **45** marbles equally among **5** boys.

(2) Share **36** beads equally among **6** girls.

(3) Share **27** drops equally among **3** girls.

(4) Share **18** chocolates equally among **6** children.

(5) **36** mangoes—Put an equal number into each of three dishes.

(6) **88** eggs—Use them equally for **4** cakes.

(7) **35** potatoes in **5** rows: how many in each row?

(8) Share **35** plums equally among **5** boys.

There are **38** plums and **5** boys. The boys are to get an equal number of plums.
The boys will get **7** plums each and there will be **3** plums over.

(9) **38** beads, and **6** girls are to have equal shares.

(10) **29** drops, and **3** girls are to have equal shares.

(11) **50** chocolates, and **6** children are to have equal shares.

(12) **37** mangoes, put them up in **3** equal parcels.

(13) **15** eggs, use an equal number for each of **4** cakes.

(14) **47** cakes, and **5** boys are to have equal shares.

Fill in the blanks

(÷reads "divide by")

(1) **9× =36.**
36÷4 =

(2) **8× =24.**
24÷3 =

(3) **5× =30.**
30÷6 =

(4) **11× =44.**
44÷4 =

(5) **10× =50.**
50÷5 =

(6) **8× =48.**
48÷6 =

(7) **12× =48.**
48÷4 =

(8) **7× =28.**
28÷4 =

28÷4

7

$4\overline{)\,28}$

4×7=28.

L.

(1) **$3\overline{)\,36}$**
(2) **$4\overline{)\,32}$**
(3) **$6\overline{)\,42}$**
(4) **$5\overline{)\,30}$**
(5) **$4\overline{)\,44}$**
(6) **$6\overline{)\,48}$**

R.

(1) **$5\overline{)\,20}$**
(2) **$4\overline{)\,36}$**
(3) **$6\overline{)\,24}$**
(4) **$5\overline{)\,25}$**
(5) **$6\overline{)\,72}$**
(6) **$3\overline{)\,24}$**

Write rem. for remainder

27÷4

6 times and **3** rem.

$4\overline{)\,27}$

(1) **35÷4.**
(2) **35÷6.**
(3) **42÷4.**
(4) **50÷6.**
(5) **75÷6.**
(6) **27÷6.**
(7) **33÷5.**
(8) **42÷5.**
(9) **64÷5.**

---

(1) Going up **9** at a time—the units lag **1** *behind.*

Example. **7 16 25 34 43 52**
— — — — — —

(2) Going up **11** at a time—the units shoot one ahead.

Example. **7 18 29 40 51 62.**
— — — — — —

RACES

(i)

Start with **6** and go up **9** at a time till you reach **69.**

(ii)

Start with **6** and go up **11** at a time till you reach **83.**

(iii)

Start with **8** and go up **9** at a time till you reach **89.**

FILL IN THE BLANKS

(iv)

(*a*) **15+8=**
(*b*) **8+7=**
(*c*) **25− =15.**
(*d*) **5× =30.**

(v)

(*a*) **42÷ =7.**
(*b*) **36÷6=**
(*c*) **33− =8.**
(*d*) **33+8=**

(vi)

(*a*) **35÷ =7.**
(*b*) **54÷6=**
(*c*) **17+ =24.**
(*d*) **17+8=**

(Tens and Units)

86÷2

43

—

2)86

The **8** is **8** lots of **10.**
2 goes into **8** four times.
These are **4** lots of **10.** So we put **4** in the tens place.
2 goes into **6** three times.

Ans. 43

EXERCISES (*Written*)

(1) **96÷3**
(2) **84÷4**
(3) **90÷3**
(4) **66÷6**
(5) **66÷3**
(6) **63÷6**
(7) **82÷2**
(8) **55÷5**
(9) **69÷3**

72÷3

24

—

3)72

3 goes into **7** twice with **1** over.
The **2** is **2** lots of ten, and **1** lot of ten is over.
Ten and **2** reads **12** units.
3 goes into **12** four times.

EXERCISES (*Written*)

(1) **72÷4**
(2) **81÷3**
(3) **84÷6**
(4) **92÷4**
(5) **65÷5**
(6) **95÷5**
(7) **90÷6**
(8) **96÷4**
(9) **84÷3**

EXERCISES (*With remainders*)

(1) **73÷4**
(2) **83÷3**
(3) **86÷6**
(4) **70÷6**
(5) **94÷4**
(6) **68÷5**
(7) **96÷5**
(8) **72÷5**
(9) **93÷6**
(10) **97÷4**
(11) **86÷3**
(12) **98÷3**
(13) **82÷6**
(14) **53÷4**
(15) **91÷6**
(16) **82÷5**

(1) A bench can seat five boys. How many benches will be needed for **70** boys?

(2) A bench can seat five boys. How many benches will be needed for **72** boys? (All the boys must be seated).

(3) A car can seat four persons. How many cars are needed for **68** persons?

(4) A tri-cycle has **3** wheels. How many tri-cycles can be made using **87** wheels?

(5) A car can seat four persons. How many cars are needed for **70** persons?

(6) A car can seat six persons. There are **92** persons and only **14** cars. How many persons will be left behind?

(7) Tom's span is **9** cm long. How many times will it fit along a line **108** cm long?

(8) Jane's foot is only **8** cm long. How many times will it fit along a line **144** cm long?

(9) Mary's foot is **7** cm long. How many times will it fit along a line **95** cm long?

(10) A match stick is **4** cm long. How many must be put end to end to form a line **64** cm long?

(11) How many sticks **6** cm long must be placed end to end to form a line **96** cm long?

(12) **8** loaves of bread weigh **1** kilogram. How many kilograms will **48** loaves weigh?

(13) A bag of rice weighs **7** kilograms. How many bags of rice will weigh **84** kilograms?

(14) I take **1** hour to cycle **9** kilometres. How long shall I take to cycle **63** kilometres?

$\begin{array}{r} 3\ 2\ 4 \\ \hline 3)\ 9\ 7\ 2 \end{array}$

$\begin{array}{r} 2\ 4\ 3 \\ \hline 4)\ 9\ 7\ 2 \end{array}$

2 lots of hundred with **1** lot over.
Read "**17**" tens.
4 lots of ten with **1** lot over.
Read "**12**".

$\begin{array}{r} 4\ 3 \\ \hline 6)\ 2\ 5\ 8 \end{array}$

6 will not go into **2**.
2 lots of a hundred over.
(We need not write, **0** over the **2** hundred).

EXERCISES

(Written)

L.

(1) **532÷4**
(2) **765÷3**
(3) **678÷6**
(4) **726÷6**
(5) **738÷6**
(6) **505÷5**
(7) **605÷5**
(8) **720÷4**
(9) **840÷6**
(10) **822÷3**

R.

(1) **638÷4**
(2) **561÷3**
(3) **918÷6**
(4) **930÷6**
(5) **735÷5**
(6) **606÷6**
(7) **546÷6**
(8) **820÷4**
(9) **420÷6**
(10) **738÷3**

RACES

(*d*) **735÷6.**
(*c*) From **625** take **478.**
(*b*) **68×6.**
(*a*) Add **263, 35, 40.**

(*d*) **79+79+79+79.**
(*c*) **824÷5.**
(*b*) Take **635** from **823.**
(*a*) Add: Three hundred and five, two hundred and seventy-six, and forty-nine.

(*d*) **×6=450.**
(*c*) **×5=635.**
(*b*) **30+39+42+28.**
(*a*) **32+32+32+32+32.**

7 days in a week.

14 days in a fortnight.

A fortnight is **2** weeks.

Weeks ...	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Days ...	**7**	**14**	**21**	**28**	**35**	**42**	**49**	**56**	**63**	**70**	**77**	**84**

(Oral)

**Look at the tables*

(1) How many weeks in: **42** days **28** days **77** days **35** days?

(2) How many days in: **3** weeks **6** weeks **10** weeks **12** weeks?

(3) "One day short of a fortnight". How many days?

(4) "Two days longer than **3** weeks". How many days?

(5) Mother said she would come back after **4** weeks. Three days have already gone. In how many days from now will Mother return?

(6) **3** weeks and **4** days—how many days in all?

(7) **4** weeks and **3** days—how many days in all?

(8) **5** weeks and **2** days— how many days in all?

(9) A fortnight and **3** days—how many days in all?

(10) Three eggs a day—how many eggs a week?

(11) Seven paise a day—how many paise a week?

(12) Six paise a day for a week—how many paise in all?

$$\begin{array}{r}32\\ \times 7\\ \hline 224\end{array}\qquad \begin{array}{l}\quad\text{12 times}\\ 7)\overline{\,84\,}\end{array}\qquad \begin{array}{l}\quad\text{4 times and 3 remainder}\\ 7)\overline{\,31\,}\end{array}$$

EXERCISES

(*Written*)

(*Look at the Tables when you need them*)

L.

(1) $43 \times 7 =$

(2) $135 \times 7 =$

(3) $\ldots \times 7 = 224$

(4) $\ldots \times 7 = 161$

(5) $84 \div 7 =$

(6) $84 \div 6 =$

(7) $23 \times 7 =$

(8) $102 \div 7 =$

R.

(1) $33 \times 7 =$

(2) $215 \times 7 =$

(3) $\ldots \times 7 = 310$

(4) $\ldots \times 7 = 168$

(5) $77 \div 7 =$

(6) $96 \div 6 =$

(7) $132 \times 7 =$

(8) $105 \times 7 =$

PROBLEMS

(1) A man walks **25** kilometres a day. How far will he walk in a week?

(2) **126** apples are to be put into **7** boxes. How many in each box?

(3) **210** picture postcards are to be put into an album. Seven postcards fit on a page. How many pages will be used?

(4) Find: $8+8+8+8+8+8+8$.

(5) Find: $7+7+7+7+7+7+7+7$.

Eights

Start at **0** and climb up the ladder **8** rungs at a time.

0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
0	**8**	**16**	**24**	**32**	**40**	**48**	**56**	**64**	**72**	**80**	**88**	**96**

Start at **40** and go up **8** at a time to **96**.

Start at **16** and go up **8** at a time to **72**, and so on.

Write out in one line the figures **1** to **12** in any order such as

10 9 2 7 6 8 11 3 5 4 1 12

Now multiply each number by **8**, putting down your answer under it.

Check your answers with the table given above. If you have not got all the answers right, put down the numbers **1** to **12** again in any order and repeat. Keep on doing this till you go through twice with all your answers correct.

Teacher will give you a strip of paper with the numbers **1** to **12** written on it in any order. Multiply each number on the strip by **8**. Write your answers below each number on the strip.

3	5	7	11	4	8	10	2	9	6	1	12
				32							

	1	2	3	4	5	6	7	8	9	10	11	1
4 Times	4	8	12	16	20	24	28	32	36	40	44	48
4 Times	4	8	12	16	20	24	28	32	36	40	44	48

Add the second and third lines and say what you notice.

Nines

Start at **0** and climb **9** rungs at a time.
9 is **1** less than **10.**

So we can go up **10** each time and climb down **1**.
Start at **0.**

Go up **10** rungs, then down **1.** **9**
Go up **10** more... **19,** then down **1.** **18**
Go up **10** more... **28,** then down **1.** **27**
Go up **10** more... **37,** then down **1.** **36**

Continue and fill in

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

*Fill in these tables and say what you notice.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
4 times							**28**					
5 times							**35**					
Add							**63**					

Fill in these tables and say what you notice.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Tens	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**
Ones	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Subtract												

Eleven

(Eleven is **1** ten and **1** unit)

Start at **0** and go up the ladder **11** rungs at a time.

1st halt **11**
add **1** unit and **1** ten
2nd halt **22**
add **1** unit and **1** ten
3rd halt **33**
and so on

Fill in these tables

11 times

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

*Fill in these tables

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
5 times			**15**									
6 times			**18**									
Add			**33**									

What do you find in the last line?

Fill in these tables

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
7 times												
4 times												
Add												

What do you find in the last line?

Teacher will give you a strip with the numbers **1** to **12** written in any order. She will also put up a number on the board. You must multiply the numbers on your strip by the number you see on the board. Put down your answers under the numbers on the strip. Check your answers with the help of your tables. If you have more than one answer wrong, ask teacher for another strip and work out the sums again.

(Teacher: Repeat with other numbers on the blackboard. The Commutative Law should be insisted on. See inside of back cover.)

SPLITTING NUMBERS

48= **12×4;**
also **6×8.**
60= **12×5;**
also **10×6.**

Split each of these numbers in two ways:—

20	**44**	**30**	**36**
16	**40**	**12**	**18**

Imagine you are climbing a ladder.

(1) Start at **7** and go up **4** rungs at a time till you reach **35.**
(2) Start at **7** and climb **5** rungs at a time to **57.**
(3) Start at **8** and climb **6** at a time to **44.**
(4) Start at **9** and climb **6** at a time to **63.**
(5) Start at **10** and climb **7** at a time to **80.**
(6) Start at **10** and climb **9** at a time to **91.**
(7) Start at **6** and climb **8** at a time to **70.**
(8) Start at **8** and climb **7** at a time to **78.**

Climbing Down.

Start at

(1)	**42**	and come down	**4** rungs at a time.
(2)	**41**		**3**
(3)	**45**		**6**
(4)	**43**		**5**
(5)	**38**		**2**
(6)	**46**		**6**
(7)	**47**		**5**
(8)	**44**		**6**
(9)	**41**		**4**
(10)	**43**		**6**

LADDERS

Work up these ladders, one at a time, filling in the blanks:

7× **5** =
7× =**56**
× **8** =**72**
× **3** =**36**
5×**11** =
9× **7** =
× **8** =**72**
6× **9** =
10× =**110**
6× **6** =
×**10** =**80**
11× **7** =
× **6** =**48**
3× =**21**
9× **8** =
(1)

4× **7** =
6× **9** =
× **8** = **96**
11× = **99**
12× = **36**
12× **7** =
12× **6** = **72**
× **6** = **66**
× **8** = **24**
8× **8** =
9× **9** =
11× **9** =
×**11** = **77**
5× **9** =
6× **5** =
(2)

The numbers **1, 4, 9, 16,** etc. are called Square numbers

11×**11** =
10×**10** =
9× **9** =
8× **8** =
7× **7** =
6× **6** =
5× **5** =
4× **4** =
3× **3** =
2× **2** =**4**
1× **1** =**1**
(3)

MULTIPLICATION

(i)

(1) 67 × 9
(2) 32 × 9
(3) 50 × 8
(4) 54 ×11
(5) 63 ×10
(6) 99 × 7
(7) 54 × 6
(8) 83 × 8
(9) 95 × 9
(10) 51 × 7
(11) 59 × 7
(12) 66 × 8
(13) 56 × 9
(14) 40 ×11
(15) 77 × 6

(ii)

(1) 567 × 7
(2) 765 × 8
(3) 540 × 9
(4) 450 ×11
(5) 666 × 8
(6) 732 × 7
(7) 814 × 9
(8) 617 ×11
(9) 928 × 9
(10) 543 × 6
(11) 827 × 8
(12) 321 × 9
(13) 777 ×10
(14) 865 ×11
(15) 328 × 8

(iii)

(1) 706 × 9
(2) 807 × 8
(3) 500 × 7
(4) 6034 × 6
(5) 7802 × 8
(6) 6078 × 9
(7) 6008 × 8
(8) 6800 × 7
(9) 5004 ×11
(10) 5909 × 9
(11) 6070 ×11
(12) 6170 ×11
(13) 5237 × 9
(14) 3157 × 8
(15) 6789 × 5

DIVISION

(1) 735 ÷ 7
(2) 739 ÷ 7
(3) 739 ÷ 7
(4) 864 ÷ 4
(5) 864 ÷ 8
(6) 728 ÷ 8
(7) 729 ÷ 8
(8) 965 ÷10
(9) 905 ÷10
(10) 729 ÷ 9
(11) 730 ÷ 9
(12) 823 ÷ 9
(13) 505 ÷ 8
(14) 700 ÷ 8
(15) 700 ÷ 9
(16) 537 ÷ 7
(17) 601 ÷ 7
(18) 586 ÷ 6
(19) 1325 ÷ 7
(20) 2706 ÷ 8
(21) 3076 ÷ 9
(22) 4343 ÷ 6
(23) 4003 ÷ 4
(24) 10003 ÷ 4
(25) 7002 ÷ 8
(26) 7002 ÷ 5
(27) 8030 ÷ 9
(28) 8075 ÷11
(29) 1111 ÷11
(30) 4444 ÷ 4

Fill in the blanks:

(1) × **8= 256**

(2) × **7= 315**

(3) × **6= 312**

(4) × **9= 603**

(5) × **6= 216**

(6) ×**11= 407**

(7) × **7= 294**

(8) × **8= 752**

(9) ×**10= 750**

(10) ×**11=6105**

(11) × **9=6318**

(12) × **9=6570**

(13) × **8=4280**

(14) × **5=1625**

(15) × **6=1950**

(16) **55**× = **440**

(17) **73**× = **438**

(18) **21**× = **189**

(19) **37**× = **111**

(20) **59**× = **236**

(21) **83**× = **664.**

Write your answers in words:

(22) Divide four hundred and seven by seven.
(23) Divide eight hundred and ninety by eight.
(24) Divide seven hundred and ninety by eleven.
(25) Divide five thousand by nine.
(26) Divide five thousand, nine hundred and fifteen by six.
(27) Divide four thousand, seven hundred and six by five.

(1) **47** pegs in a row. How many in **8** rows?

(2) Six buttons on a coat. How many on **25** coats?

(3) **11** players in a football team. How many players in **17** teams?

(4) **119** pages to a book. How many pages in **7** such books?

(5) **36** sweets in a packet. How many sweets in **8** packets?

(6) **196** sweets are shared among **8** children. How many will each get?

(7) How many football teams will **153** boys make?

(8) How many cars will be needed to take **17** children to a picnic if each car can take **6** children?

(9) **207** trees are to be planted in rows of **9.** How many rows?

(10) A number of trees are planted in rows of seven, and there are **33** rows. How many trees altogether?

(11) Five benches each **2** metres long fit across a classroom. How broad is the classroom?

(12) Nine coloured pencils in a case. How many in **56** cases?

(13) **215** pencils are packed in packets of **5.** How many packets ?

(14) Eight doll's houses cost Rs. **216.00.** What is the price of one doll's house?

(15) A cycle costs Rs. **217.00.** What must be paid for **8** cycles ?

(16) A bus can carry **23** children. How many will eleven buses take ?

(17) How many boxes will be needed to pack **75** tennis balls if a box can hold **6** balls ?

(18) Which answer is bigger **73×9** or **82** by **8**?

(19) A room is **11** metres long and **9** metres broad. How many metres will you walk if you walk once round the room ? How many metres will you walk if you walk eight times round the room?

(20) Teacher had **400** sheets of paper. She gave the **25** children in her class **9** sheets each. How many sheets did teacher have left?

(21) From a box of **200** chocolates **18** children are given **5** each. How many will be left in the box?

(22) There are six baskets of mangoes, **33** in each basket. Seven of the mangoes are rotten. How many good mangoes are there altogether?

(23) Seventeen posts are placed in the ground in a straight line. The posts are **6** metres apart. How far is the first post from the last one?

(24) Mary has **3** oranges, John **1** and Jane **5**. Mother took the oranges away from them and then shared the oranges equally between the three children. How many did each get?

(25) Mary's, Tom's and Jane's ages add up to **25**. What will their ages add up to after **10** years?

(26) There are **15** mangoes in each of **9** baskets and **17** mangoes in each of **8** baskets. How many mangoes are there altogether?

(27) The school hall is **24** metres long, How many benches will fit end to end across the hall if each bench is 3 metres long?

(28) John saves **18** P. of his pocket money a week, so as to buy a penknife which costs Rs. **5.40**. After how long will he be able to buy the penknife?

(29) A slab of chocolate costs **75** P. If I have Rs. **10** and I buy **11** slabs how much money have I left?

(30) A box of coloured pencils cost Rs. **3.25** P. and a bottle of ink costs Rs. **1.15** P. If I buy 9 boxes of coloured pencils and **7** bottles of ink, how much do I pay altogether?

12 times:

0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
0	**12**	**24**	**36**	**48**	**60**	**72**	**84**	**96**	**108**	**120**	**132**	**144**

EXERCISES

72 × **12**
32 × **12**
48 × **12**
51 × **12**
65 × **12**
49 × **12**
59 × **12**

123 × **12**
365 × **12**
475 × **12**
1243 × **12**
2056 × **12**
2809 × **12**
3167 × **12**
2723 × **12**

1 doz. = **12**; **1** gross = **12** dozen = **144**

(*Oral*)

(1) If one bun costs **7** P., what is the price of one dozen buns?

(2) How many dozen in **48, 60, 72, 36**?

(3) A boy has **3** dozen white marbles and **4** dozen coloured marbles. How many marbles has he got altogether?

(4) How many is half a dozen? (½ dozen.)

(5) How many is a quarter of a dozen? (¼ dozen.)

(6) I divide **2** dozen small cakes equally between **6** boys. How many will each boy get?

EXERCISES (*Written*)

(1) Teacher has a gross of pencils. If she gives the class **36**, how many will she have left?

(2) A man's pace is **67** centimetres. How far does he go if he takes one dozen paces? Write your answer in metres and centimetres.

(3) How many is a $\frac{1}{2}$ gross?

(4) If teacher buys $\frac{1}{2}$ gross exercise books and gives the class **50,** how many will she have left?

(5) I have a gross of apples and I give away **7** doz. How many apples have I left?

(6) How many eggs are **5** gross of eggs?

(7) If a gross of marbles is divided among **6** boys, what will each boy get?

(8) How many is a quarter of a gross?

(9) I have $\frac{1}{4}$ gross of buns. How many more must I have to give **5** boys **9** buns each?

(10) One dozen cakes cost Rs. **2.** How much will **1** gross cost?

(11) I buy a gross of pencils for Rs. **36.** What is the price of one dozen pencils?

(12) Teacher gives **12** exercise books to each boy in her class. If there are **36** boys in the class, how many gross exercise books has she given?

(13) I buy one gross of eggs and **8** are broken. If I share the remainder between **8** people, how many eggs will each receive?

(14) A boy has **165** marbles. If he loses **2**$\frac{1}{4}$ dozen marbles in a game, how many has he left?

(15) I buy **1**$\frac{1}{2}$ dozen red pencils, **2**$\frac{1}{4}$ dozen blue pencils and **3**$\frac{1}{2}$ dozen green pencils. How many pencils have I bought altogether?

(16) There are **12** months in a year. How many months are there in: (a) **2** years, **4** years, $\frac{1}{2}$ year, $\frac{1}{4}$year, $\frac{3}{4}$ year?

(17) A boy stays **9** months in school. How many months' holiday does he get in a year?

SIXTY

60 is **5** dozen.
60 minutes=**1** hour.

20 is **1** score.
60 is **3** scores.

(Oral)

(1) How many **5**'s in **60**?

(2) How many half-dozens in **60**?

(3) How much is "two scores"?

(4) What is half a score (½ score)?

(5) What is a quarter of a score (¼ score)?

(6) What is "a score plus a dozen"?

(7) How many minutes in ½ hour (half an hour)?

(8) How many minutes in ¼ hour (quarter of an hour)?

(9) A bell rings every **10** minutes. How many times will it ring in an hour?

(10) How many minutes in **1½** hours?

RACES

(i)	(ii)	(iii)
(*e*) **33**×**7**=	(*e*) **7**× =**91**	(*e*) **28** in.+**8** in = ft. in.
(*d*) **33**− =**25**	(*d*) **1¼** hours=min.	(*d*) ½ score−½ doz. =
(*c*) **29**+**8**−**7**=	(*c*) **1** score−**1**doz. =	(*c*) **80** min. = hour min.
(*b*) **72**×**5**=	(*b*) ½hour−**5** min. =	(*b*) **25** in.= ft. in.
(*a*) **32**− =**8**	(*a*) **7**+**8**+**9**=	(*a*) **8**+**9**+**5**=

TELLING THE TIME

Oral and Demonstration

**(*Model needed*)

(1) Put the hands to **4** o'clock.
Turn the big hand once around.
What time is it now?

(2) It is now **5** o'clock.
Turn the big hand only half-way around.
It is now half-past **5** o'clock ("half past" is short for "half an hour past").

(3) Show the hands at **8** o'clock.
Then at a quarter past **8**. ("quarter past" means "a quarter of an hour past").
Then at a quarter to **8**. ("quarter to" means "a quarter of an hour to")
How many minutes is it between **5** and a quarter past **5** o'clock?

(4) Put the hands to show **7** o'clock.
How will they be **15** minutes later?
How were they **15** minutes earlier?

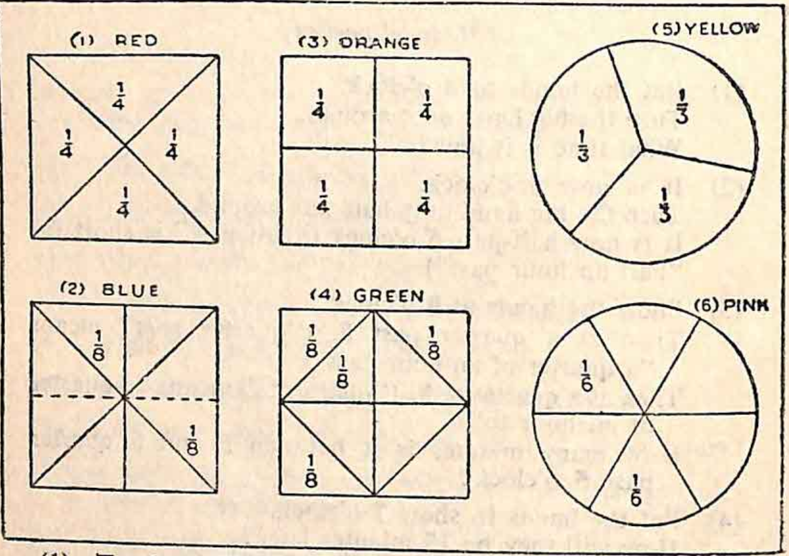
(5) Show the hands at **6** o'clock.
A quarter of an hour later.
Then another ¼ hour later.
It is now half-way around. It is half-past six.
Still another ¼ hour later.
It is now a quarter to seven.

(6) Put the hands to show **5** o'clock.
How were they ten minutes earlier?
How will they be ten minutes later?

(7) Put the hands to show **10** minutes to **6** o'clock.
How will the hands be **10** minutes later?
How were the hands **5** minutes earlier?

(8) Put the hands to show **20** past **6**.
25 past **6**.
25 to **7**.
20 to **7**.

**(*Practical and Oral*)



(1) Teacher will give you each four red paper triangles. Put them together as in fig. (1) and mark each of them "$\frac{1}{4}$".

(2) You are given **8** blue triangles. Put them together to make up fig. (2) and mark each of them "$\frac{1}{8}$".

(3) Fold and crease the part of fig. (1) to make the figure look like figure (2).
How many $\frac{1}{8}$'s are there in a $\frac{1}{4}$?
(Read "how many eighths are there in a quarter?")

(4) With the given orange squares make up fig. (3) and mark each part "$\frac{1}{4}$".
With the given green triangles make up fig. (4) and mark each part "$\frac{1}{8}$".
Fold and crease the squares of fig. (3) to make it look like fig. (4).

(5) With the given yellow paper-lozenges make up fig. (5).
With the given pink triangles make up fig. (6). Fold and crease the paper-lozenges of fig. (5) to make it look like fig. (6). How many $\frac{1}{6}$'s are there in a $\frac{1}{3}$?

THREE QUARTERS

$\frac{3}{4}$

(Practical and Oral)

(1) Put your four red triangles together again as you did for fig. (1)

You now have a square.

Take away one triangle.

What remains? Three quarters of a square

or

$\frac{3}{4}$ square.

(2) Put your **4** orange squares together to make fig. (2). Take one away to leave $\frac{3}{4}$ square.

(3) Ask teacher to give you a paper circle. Fold it into halves. You now have a semi-circle. Fold the semi-circle into halves, then open out the circle. The circle is now divided into quarters. Colour to show $\frac{3}{4}$ circle.

(4) How many $\frac{1}{4}$'s are there in $\frac{1}{2}$?

(5) What must you add to $\frac{1}{2}$ to get $\frac{3}{4}$?

(6) How many paise in Re. $\frac{1}{4}$? How many paise in Re. $\frac{3}{4}$?

(7) How many minutes are there in $\frac{3}{4}$ hour?

(8) How much less than **1** is $\frac{3}{4}$?

(9) If you cut off $\frac{1}{2}$ m from a ribbon which is $\frac{3}{4}$ m long, how much will remain?

(10) Add $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$.

Kilogram and parts of a Kilogram

Practical

Teacher will show you to weigh things. She will let you take these weights in your hand so that you can feel how heavy they are:

1 Kilogram = 1000 grams
$\frac{1}{2}$ Kilogram = 500 grams
$\frac{1}{4}$ Kilogram = 250 grams
$\frac{1}{5}$ Kilogram = 200 grams
$\frac{1}{10}$ Kilogram = 100 grams
$\frac{1}{20}$ Kilogram = 50 grams

kg is short for Kilogram (s).

gm is short for gram.

Teacher will weigh out $\frac{1}{2}$ Kilogram (kg) of sweets.

(1) How would you weigh out $\frac{1}{2}$ kg of sweets if you had no $\frac{1}{2}$ kg weight?

(2) Weigh out another **1** kg of sweets. Now put the two kg of sweets together in the pan. What weight should be put in the other pan for the scale to balance? Weigh and see if you are right.

(3) How many grams are there in $\frac{1}{4}$ kg; $\frac{1}{5}$ kg; $\frac{1}{10}$ kg?

(4) What weights will you use to weigh out:—
750 gm; 400 gm; 350 gm; 150 gm; 800 gm.

(5) If you weigh $\frac{1}{4}$ kg of sweets, then another $\frac{1}{2}$ kg of them, and $\frac{1}{4}$ kg more, what weight have you got altogether?

Litres (Practical)

All liquids are measured in litres. Teachers will show you a litre measure.

Here is a kettle which is said to hold **3** litres. (1) How can I test to see if this is right:—

(i) if the kettle is empty.

(ii) if the kettle is full of water.

(2) Here is a water jug. Guess how many litres the jug will hold. How can I find out exactly?

(3) A breakfast cup is made to hold ¼ litre. If a teapot holds **4** such cups how much water is needed to fill the teapot? If a larger tea pot holds **8** of such cups how much water will now be needed to fill the tea pot?

(4) I have an oil lamp, which holds a litre of oil. How many times could I fill it if I had **1** litre of oil? If I had **3** litres of oil how many times can I now fill the lamp?

A petrol-tin holds **10** litres of petrol.

A kerosene-tin holds **20** litres of kerosene oil.

(5) A litre of petrol costs **60** P. What will **12** litres cost?

(6) How many petrol-tins will I need to keep **400** litres of petrol?

(7) A car uses **1** litre of petrol to go **9** kilometres. How far will it go on **25** litres of petrol?

(8) I use **1** litre of kerosene oil in **2** days. How much oil will I use in **22** days?

(9) If a jug holds **4** litres of water, how can I use it to put exactly **64** litres of water in a tub?

(10) In a class each child gets ¼ litre of milk at breakfast. How many litres will be needed for a class of **24** children?

(11) I buy **9** tins of kerosene oil. How many litres have I bought altogether? If I paid Rs. **7.50** for each tin, how much have I paid altogether?

(12) **45** people go on a picnic. If each person takes a water bottle containing **2** litres of water, how many litres of water are the people taking altogether?

Kilometres, metres, centimetres

Learn these tables:

100 centimetres =**1** metre (m)
1000 metres =**1** kilometre (km)

Examples

m	cm
55	41
+64	97
120	38

120 m **38** cm Ans.

Subtract

m	cm
72	47
−45	68
26	79

26 m **79** cm Ans.

(1)

m	cm
75	47
+46	92
+35	31

(2)

m	cm
82	07
+45	46
+93	89

(3)

m	cm
64	63
+83	9
+54	92

(4)

m	cm
71	92
+85	47
+96	99

(5)

m	cm
63	75
+37	82
+91	10

(6)

m	cm
23	45
+46	49
+73	55

(7)

m	cm
125	43
+405	72
+813	43

(8)

m	cm
235	45
+426	93
+303	67

(9)

m	cm
45	92
−31	41

(10)

m	cm
72	56
−49	27

(11)

m	cm
65	63
−39	79

(12)

m	cm
92	47
−67	81

(13)

m	cm
85	69
−59	75

(14)

m	cm
88	34
−39	75

(15)

m	cm
43	81
−37	97

Litres and centilitres

100 centilitres (cl) = **1** litre (l)

(1)

l.	cl.
16	**13**
+17	**22**
+18	**14**

(2)

l.	cl.
22	**24**
+43	**33**
+15	**21**

(3)

l.	cl.
15	**56**
+22	**44**
+13	**82**

(4)

l.	cl.
25	**73**
+42	**87**
+54	**56**

(5)

l.	cl.
25	**71**
+22	**39**
+27	**98**

(6)

l.	cl.
34	**25**
+42	**77**
+58	**89**

(7)

l.	cl.
25	**28**
−13	**13**

(8)

l.	cl.
36	**37**
−19	**43**

(9)

l.	cl.
45	**54**
−23	**47**

(10)

l.	cl.
47	**71**
−39	**87**

(11)

l.	cl.
53	**82**
−48	**97**

(12)

l.	cl.
74	**24**
−69	**89**

(13)

l.	cl.
85	**6**
−58	**89**

(14)

l.	cl.
67	**2**
−49	**79**

(15)

l.	cl.
33	**9**
−24	**79**

I buy a top for **21** P. I give the shopkeeper Re. **1**. What change must the shopkeeper give me?

Re. P.	Re. **1**=**100** P.
1.00	**21** from **100** leaves **79**.
21	Put down 79 P.
0.79 P.	

(1) I buy an exercise book for **36** P. and give the shopkeeper Re **1**. He just gives me back—.

(2) I buy a pencil for **37** P. and give the shopkeeper Re. **1**. What, change must he return me?

(3) I buy toffee for **62** P. and give the shopkeeper Re. **1**. What change must he give me back?

(4) I buy a ruler for **37** P. and a pencil for **24** P. and give the shopkeeper Re. **1**. What change must he give me back?

(5) I buy a ruler for **37** P., a coloured pencil for **30** P. and a rubber for **18** P. What change must I get from the shopkeeper if I give him Re. **1** ?

(6) I buy a penknife for **87** P. and I give the shopkeeper Rs. **2**. What change must I get back?

(7) I buy a penknife for **87** P., a chocolate slab for **75** P. and give the shopkeeper Rs. **2**. What change must he return?

THIRTEEN TIMES

Thirteen is 1 ten and 3 units.

13+13+13=39; so **3** times **13** is **39.**

13+13+13+13=52; so **4** times **13** is **52.**

	1	2	3	4	5	6	7	8	9	10	11	12	13
Fill in these tables		26											

	1	2	3	4	5	6	7	8	9	10	11	12	13
5 times				20									
8 times				32									
Add				52									

What do you find in the last line?

	1	2	3	4	5	6	7	8	9	10	11	12	13
4 times													
9 times													
Add													

14+14=28; so **2** times **14** is **28.**

14+14+14=42; so **3** times **14** is **42.**

14 times

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Fill in these tables:		**28**											**182**	

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
6 times				**24**										
8 times				**32**										
Add				**56**										

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
5 times							**35**							
9 times							**63**							
Add							**98**							

What do you find in the last line?

FIFTEEN TIMES

15+15=30. So **2** times **15** is **30.**

15+15+15=45 or **30+15=45.**

So **3** times **15** is **45.**

15 times

Fill in these tables

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
					90							**195**		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7 times							**49**								
8 times							**56**								
Add							**105**								

What do you find in the last line?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
6 times					**30**										
9 times					**45**										
Add					**75**										

What do you find in the last line?

Work up these sums filling in the blanks. Look at the **13**, **14** and **15** times tables you have made when you need them.

(1)	$5\times13=$	$11\times\quad=55$	$15\times15=$
(2)	$9\times14=$	$13\times\quad=143$	$14\times14=$
(3)	$5\times15=$	$\quad\times15=165$	$13\times13=$
(4)	$8\times\quad=104$	$12\times11=$	$12\times12=$
(5)	$3\times\quad=42$	$8\times15=$	$11\times11=$
(6)	$8\times\quad=96$	$9\times\quad=126$	$10\times10=$
(7)	$6\times\quad=90$	$14\times\quad=196$	$9\times9=$
(8)	$4\times11=$	$\quad\times14=210$	$8\times8=$
(9)	$9\times13=$	$9\times\quad=108$	$7\times7=$
(10)	$\quad\times15=135$	$7\times15=$	$6\times6=$
(11)	$\quad\times14=56$	$6\times\quad=72$	$5\times5=$
(12)	$7\times\quad=91$	$12\times15=$	$4\times4=$
(13)	$2\times\quad=30$	$13\times\quad=156$	$3\times3=$
(14)	$\quad\times6=84$	$14\times12=$	$2\times2=$
(15)	$13\times13=$	$7\times\quad=98$	$1\times1=$

(1) A book costs **15** P. What must I pay for **12** such books?

(2) A tram ticket costs **9** P. How much will I pay for **13** tickets?

(3) **15** school children go for a tram ride. Each child has to pay **12** P. How much do they pay altogether.

(4) How many days are there in thirteen weeks?

(5) Mother buys **13** slabs of pea-nut toffee. If she pays **15** P. for each slab, what does she pay altogether?

(6) A tin of sweets weighs **7** kilograms. What will **13** such tins weigh?

(7) A box has **15** large rubbers. How many are there in **12** boxes?

(8) I give each child in a class **6** coloured pencils. If there are **14** children in the class, how many coloured pencils do I give altogether?

(9) There are **4** weeks in a month. How many weeks are there in **15** months?

(10) There are **12** months in one year. How many months are there in **9** years?

(11) A boy saves **15** P. a week. How much will he have after **15** weeks?

(12) A man cycles **14** kilometres in **1** hour. How far has he gone in **8** hours?

(13) A hen costs Rs. **5.** How much will I pay for **13** hens?

(14) A metre of cloth costs Rs. **4.** How much will **14** metres cost?

REVISION TESTS

Paper 1

(1) Add (*a*) **859** (*b*) **1652**
723 **2397**
976 **4286**

(2) Take four hundred and five from seven hundred and nineteen.

(3) Multiply **756** by **6.**

(4) Divide **656** by **8.**

(5) Add Rs. **4·57** P. (ii) Take Rs. **3·89** P. from Rs. **7·66** P.
+**8·98**
+**7·12**

Paper 2

(1) Multiply three hundred and fifty-seven by five.

(2) Divide seven hundred and fifty-two by eight.

(3) How many days are there in four weeks and five days?

(4) I go shopping and buy a kilogram of sweets for Rs. **2·75** P., one metre of cloth for Rs. **3·37** P. and a tie for Rs. **2·50** P. How much have I spent altogether?

(5) There are **22** boys in a class. If I give each boy half a dozen marbles, how many marbles have I given altogether?

Paper 3

(1) Write in figures: (a) One thousand five hundred and seventy-five. (b) Two thousand and seventeen.

(2) A boy gets **7** weeks' holiday during the summer. If he spends **22** days with his uncle and the rest with his parents, how many days does he spend with his parents?

(3) If one litre of kerosene oil costs **27** P., what must I pay for **9** litres?

(4) **384** stamps are to be put into an album. If **8** stamps are stuck on each page, how many pages will be used?

(5) I buy $\mathbf{2\frac{1}{4}}$ metres of silk from one shop and $\mathbf{3\frac{1}{4}}$ metres of silk from another shop. How much have I bought altogether?

Paper 4

(1) Add

$$\begin{array}{rr} \text{m} & \text{cm} \\ 72 & 47 \\ +55 & 97 \\ +62 & 46 \\ \hline \end{array} \qquad \begin{array}{rr} \text{l} & \text{cl} \\ 54 & 55 \\ +87 & 92 \\ +71 & 43 \\ \hline \end{array}$$

(2) Add Subtract

$$\begin{array}{r} \text{Rs.P} \\ 75{\cdot}47 \\ +52{\cdot}96 \\ +85{\cdot}73 \\ \hline \end{array} \qquad \begin{array}{r} \text{Rs.P} \\ 65{\cdot}47 \\ -47{\cdot}99 \\ \hline \end{array}$$

(3) I have one gross of pencils. If I give my class **32**, how many pencils will I have left?

(4) How many mangoes are **8** gross of mangoes?

(5) Add (i) $1\frac{1}{2}+2\frac{1}{4}+3\frac{3}{4}$.
(ii) $2\frac{1}{4}+5\frac{1}{2}+1\frac{1}{2}$.

Paper 5

(1) Add together **35+96+87.**

(2) Subtract forty-seven from ninety-two.

(3) Mother uses eight eggs to make a cake. How many eggs will she use to make nine cakes?

(4) I go shopping and buy cakes for Rs. **2·50,** a bottle of pickle for Rs. **3·25,** and a tin of jam for Rs. **1·62.** How much do I spend?

(5) I divide **2** gross of marbles equally among nine boys. How many marbles does each boy get?

Paper 6

(1) Write in figures:—Seven thousand, nine hundred and four. Eight thousand and fifty-six.

(2) Multiply four hundred and fifty-nine by twelve.

(3) Divide five hundred and twelve by eight.

(4) There are **8** baskets of apples. Each basket has **42** apples. Thirteen of the apples are bad. How many good apples are there altogether?

(5) I go shopping and I buy a penknife for **62** P., a kilogram of sweets for Rs. **2·62**, and a football for Rs. **4·75**. How much have I spent altogether? If I gave the shopkeeper Rs. **10**, what change must I get back?

Paper 7

(1) Add together	**756** **843** **912**	**861** **735** **646**
(2) Subtract	**871** **−496**	**548** **−399**
(3) Multiply	**785** by **8**;	**879** by **6**.
(4) Divide	**343** by **7.** **907** by **9.** **489** by **11.**	

(5) From a box of **250** sweets, I give **23** children **9** sweets each. How many will be left in the box?

Paper 8

(1) A girl buys a doll for Rs. **23.** How much will she have to pay for seven dolls?

(2) If a kilogram of butter costs Rs. **7,** how much should you pay for $\frac{1}{4}$ kilogram?

(3) A bag has **90** kilograms of rice. **5** kilograms are taken out every day. How many kilograms of rice will be left in the bag in **13** days?

(4) A grocer buys **4** bags, each containing **16** kilograms of sugar. How many kilograms are there altogether? How many bags of **2** kilograms could be made out of them?

(5) In an orchard there are **66** trees. Half of them are orange trees, and one third are plantain trees. How many other trees are there?

Paper 9

(1) Find the missing number in this sum:

$$\mathbf{45+28+?=91}$$

(2) If you write the word BANGALORE seven times, how many letters do you write?

(3) A grocer buys **1** gross of eggs. He finds **9** broken and he sells **9** dozen. How many has he left?

(4) A girl buys **75** cm of blue ribbon, **96** cm of red ribbon, and **125** cm of green ribbon. How many centimetres of ribbon has she bought altogether? Rewrite your answer in metres and centimetres.

(5) A motor cyclist travels **48** kilometres on **1** litre of petrol. How far will he go with **11** litres?

Paper 10

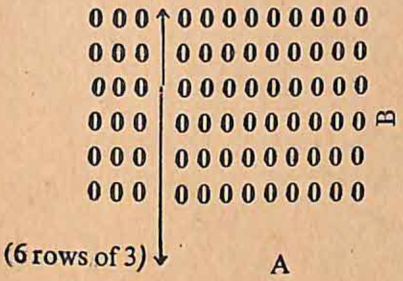
(1) By how much is **3** score greater than **4** dozen?

(2) Write in metres and centimetres the following:—
(*a*) **200** cm; (*b*) **300** cm; (*c*) **425** cm; (*d*) **765** cm; (*e*) **821** cm.

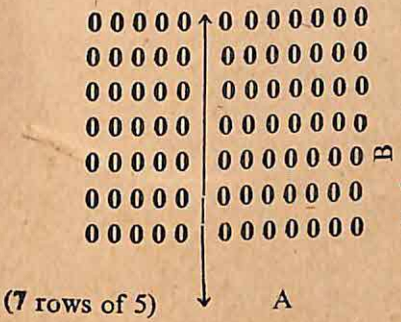
(3) I divide a certain number by **4**, and my answer is **123.** What is the number?

(4) Mary's age now is **12** years, and John's age now is **15** years. What will their ages total up to in **8** years?

(5) There are **24** coloured pencils in a box. How many pencils are there in **9** boxes?



First read with A towards you,
"6 rows of 3=18."
Then read with B towards you,
"3 rows of 6=18."
Then shift the arrowed line left or right and read again.



First read with A towards you,
"7 rows of 5=35."
Then read with B towards you,
"5 rows of 7=35."
Then shift the arrowed line left or right and read again.

$8+7+3=$ 18
$6+4+5=$ 15
$9+6+2=$ 17
$8+3+7=$ 18
$31+20+17=$ $\boxed{68}$

Add sideways.
Then add downwards.
Then add your answers.

Try the same plan with other numbers.